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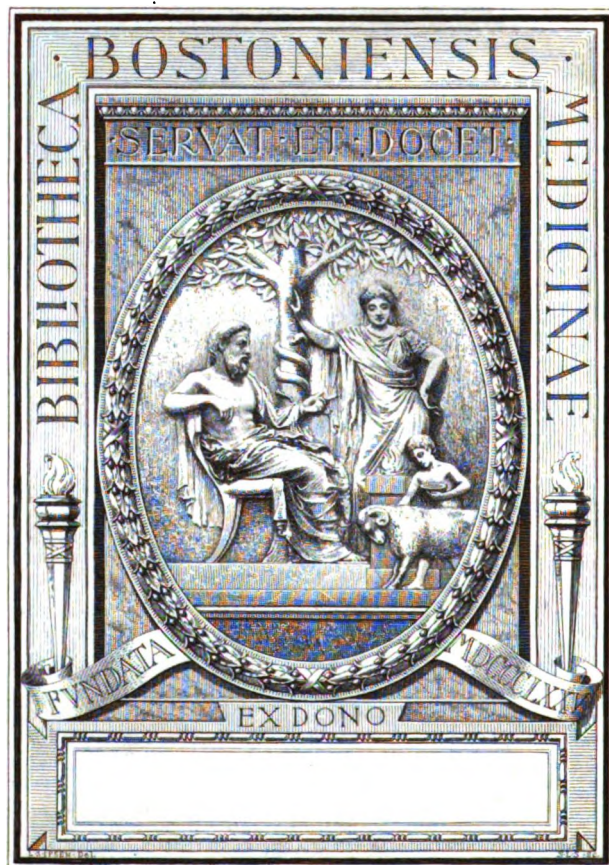
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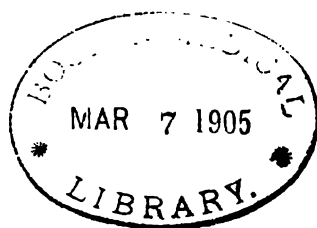
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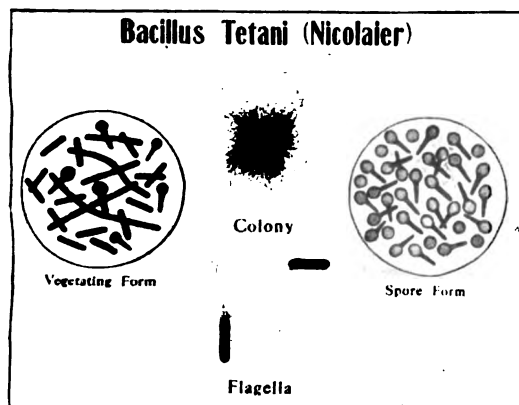
No. 1

Original Articles

BACTERIOLOGY AND SERUM THERAPY OF TETANUS.*

E. M. HOUGHTON,
Detroit.

Twenty years ago Carle and Rattone produced tetanus in animals by injecting them with pus from the wound of a patient suffering from the disease. The following year Nicolaier showed that the short club-shaped bacilli found in the soil of gardens, about stables, and similar localities was the exciting cause of tetanus, while three years later Kitasato succeeded in obtaining a pure culture of the germs from garden earth and from the pus obtained from a case of tetanus, isolating them from the associated bacteria always found present.



The bacillus tetani, as isolated from cases of traumatic tetanus in man or animals; tetanus neonatorum; animals that have developed tetanus from inoculation with garden or stable soil and the intestinal contents of certain animals, etc., is a long narrow bacillus or rod with rounded ends, possessing numerous flagella which render it motile. In some cultures long threads are formed. Characteristic end spores are found particularly when the cultures have been kept at the body temperature. These spore-bearing germs are the so-called drum-sticks which are of so much service in making a microscopical diagnosis. Tetanus germs stain rapidly with ordinary anilin stains and Gram's method. Cultures can be readily grown on most kinds of culture media; particularly if a small amount of glucose be present; provided air or oxygen is excluded; by growing them in vacuum or in some inert gas, as hydrogen, nitrogen, etc. Colonies in gelatin resemble the hay bacillus quite closely. Gradually the gelatin is liquefied, due to a peptonizing substance secreted or excreted by the germs. Cultures upon agar, potato, etc., are so indistinct as to be scarcely visible. Rapid growth occurs in milk without producing any appreciable change. Cultures grow best at 38° C., but growth also occurs at room temperature. H. S. and other gases are generated by the growing bacteria. By artificial culture tetanus germs gradually lose their virulency.

*Read before the Wayne County Medical Society, Sept. 17, 1903.

That the bacillus tetani is the specific cause of the disease has been clearly shown by numerous observers, who have been able to obtain the pure cultures from the wounds of tetanus cases. Such cultures, when injected into susceptible animals, produced typical symptoms of the disease, and they finally recovered the germs in pure culture from the artificially infected animal. Not always can one obtain pure cultures of the tetanus bacillus from cases of the disease, owing to the great difficulty of isolating the germs and the minute number of organisms present in many cases. The disease occurs naturally in horses and man, but other animals may be affected, while crocodiles, etc., are immune. Infection generally occurs as the result of some ragged punctured wound, in which the tissues are more or less bruised or lacerated and soiled with earth, dust, decomposing barnyard refuse or other similar substance. One of the most frequent causes of infection are the lacerated wounds produced by the juvenile toy pistol, target rifle, etc. In these cases the skin is usually well-coated with street dust, much of which is carried into the wound with perhaps the wad or other portion of the charge, and found deeply buried in the wound. Often in these cases too little attention is paid to the wound when received, and on coming to a physician several days later the wound is closed up on the outside, while underneath there is a mass of decomposing tissue, pus, etc.,—an ideal laboratory for the production of tetanus poison.

I believe that in every case where a patient reports to the physician for the treatment of a suppurating wound that has been contaminated with earth or in other ways, possibly infected with material containing tetanus germs, a bacteriologi-

cal examination should be made, whether the patient has shown any of the clinical symptoms of the disease or not. A bacteriological diagnosis may be best accomplished by making microscopic examination of cover-glass smears prepared directly from the discharges of the wound, or sections taken from the broken-down disintegrating tissue that may be scraped from the wound, such preparations being stained by the ordinary anilin dyes and examined microscopically. If suspicious bacilli or the characteristic drum-sticks are found, the case should be regarded as one that would probably develop into tetanus, and treated accordingly. Cultures should be made upon glucose, agar, etc., kept at the incubator temperature and in an atmosphere of hydrogen or under oil, the colonies that develop being examined microscopically two or three days later, and a portion of the material from the wound should be inoculated into guinea-pigs or white mice, which are very susceptible to the disease. Such animals will show symptoms within a few days of tetanus, if the case is a specific one, thus rendering the diagnosis certain. It may be practically impossible to make a bacteriological diagnosis in a given case on account of the disappearance of the germs, particularly if the wound is slight and nearly healed. In such cases sufficient poisons may have been developed previous to the death of the organisms to subsequently produce clinical symptoms in the patient.

For the purpose of immunizing animals for the production of antitetanic serum two methods are generally employed: 1st, that originated by Kitasato and Behring in '91, of injecting gradually increasing doses of a bouillon toxin; 2nd, that of Tizzoni and Cattani, of adminis-

tering cultures subjected to different degrees of temperature. Practically all the antitetanic serum employed outside of Italy is prepared in accordance with the former method, which may be of sufficient interest to describe more in detail.

Virulent cultures of the tetanus bacillus are planted in suitable containers of glucose beef bouillon, the air being replaced with hydrogen or other inert gas, or the surface of the bouillon may be covered with a thick layer of oil, to prevent the entrance of oxygen. These cultures are allowed to grow at the incubator temperature for from seven to fourteen days, or longer, during which time they multiply and produce their soluble poisons, which remain in solution in the beef bouillon after the germs have been removed by filtration through unglazed porcelain. Such a filtered bouillon culture will be hereafter called a toxin. The substances contained in this toxin are many and thus far the attempts of numerous observers to obtain the specific tetanus poison in pure form have been but partially successful. The toxin is then tested for its killing power upon medium-sized unimmunized guinea-pigs. So potent is it to these animals that frequently 1/1000th part of a cubic centimetre is sufficient to produce death in a few days.

Brieger and Fraenkel in the early nineties succeeded in isolating from tetanus toxin a toxalbumin, which they believed to be the specific tetanus-producing poison formed by the germs. So virulent was this substance that 1/300 of a gr. of it was computed as sufficient to kill a full-grown man.

Martin, in studying the question further, succeeded in obtaining two poisonous products: one an albumose, to which he attributed a fever-producing

action, and another non-proteid body which excited muscular tetanic spasms.

Later Uschinsky succeeded in growing tetanus cultures in fluids which did not contain proteid matter, but still the organisms produced a peculiar poison.

Kitasato in his early studies found that tetanus toxin lost its poisonous products when subjected to a temperature of 55° C. or over, by coming in contact with various chemicals, as pyrogallol, and by exposure to the direct rays of the sun, but was not destroyed by drying.

The filtered toxin loses its poisonous properties very quickly upon standing, and the ultimate toxin molecule is supposed by bacteriologists to contain at least two affinities; one of which loses its activity very quickly and is responsible for the poisonous action of the molecule. This Ehrlich named a toxaphorous group; the other, a much more stable body, which does not produce a poisonous action upon animals, he called a haptophorous group. This retains its combining power with the immune bodies contained in the antitetanic serum for a long time unchanged. Ehrlich also found that the haptophorous molecule is capable, when injected into suitable animals, of rendering them immune to both affinities.

Quite recently Ehrlich and Madsen have shown that certain tetanus toxins contain two poisons, one of which produces, when injected into animals, tetanic spasms. This they have called tetanospasmin. The other, because it possesses the property of dissolving certain of the red corpuscles, they called tetanolysin. The technique of obtaining these various poisons from the toxin is too complicated and uninteresting to be gone into in detail. Other observers have thought that the action of the tetanus toxin was due to the

presence of a ferment, acting somewhat like a diastase. Certain it is that the tetanus germs, grown upon gelatin, possess the power of liquefying the medium; likewise, the bacteria-free cultures produce the same reaction, indeed in many respects the physical and chemical properties manifested by the toxin resemble very strongly some of our best-known ferments.

It is sufficient for us to remember that the chemical properties of the poisons produced by tetanus bacilli, when grown in glucose beef bouillon and other suitable culture media, are probably the most potent poisons known, producing when injected into susceptible animals typical clinical symptoms of the disease.

As a result of an investigation made by Bolton and Fisch, to determine the cause of the fatal cases of tetanus occurring in St. Louis, following the injection of antidiphtheritic serum obtained from the blood of a horse which two days later developed tetanus, the following interesting facts were shown:

Tetanus toxin may be found in the blood of infected horses four or five days previous to the manifestation of clinical symptoms of the disease, in sufficient quantities to render the serum fatal to human beings when injected in doses of 10 to 100 cubic centimetres; a day or two before the horse shows the clinical symptoms of tetanus the amount of toxin contained in the blood rapidly disappears, so that shortly before the death of the animal it cannot be found, the circulating toxin being replaced by an antitoxin. They found great difficulty in inducing tetanus in the horse by inoculating him with tetanus-bearing earth.

The question often arises, "Why do so few cases of the disease follow earth-infected wounds?" The experiments of

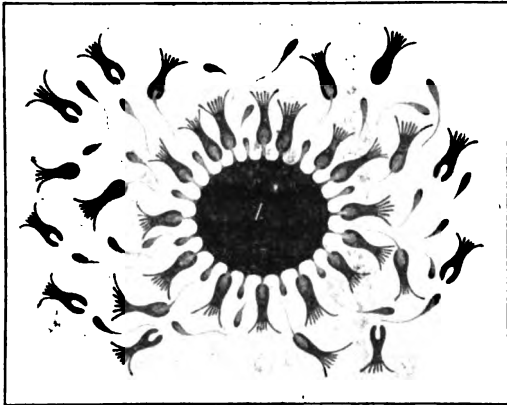
Paillard throws some light upon this phase of the subject. He found that tetanus does not result in animals inoculated with tetanus cultures that have been heated to 80° C., such heating destroying everything except the spores, which were rapidly destroyed by the tissue, but if some chemical, as lactic acid, was injected along with the spores, or the tissue injured at the point of inoculation, tetanus did result. Kitasato found on investigating the subject further that a mechanical irritant, as soil, a splinter of wood, or pus-producing bacteria, when introduced along with the spores, produced the disease, and finally drew the conclusion that in the actual infection in man some foreign material or other bacteria must be present in order to produce the disease; that pure cultures of the spores or of tetanus bacilli are rapidly destroyed by the tissues, when introduced, without the development of any clinical symptoms.

In the immunizing processes the tetanus toxin is administered to susceptible animals, usually horses, in minute, gradually increasing doses, by subcutaneous or intravenous injection or both, until the animal is able to withstand thousands of times the quantity of poison that would be fatal to the unimmunized animal. When the animal can withstand these large quantities of toxin, it is certain that the blood and the tissues of the body contain considerable quantities of the antitoxin. The injections of the toxin are then discontinued for ten days to two weeks, then the blood is drawn, the serum collected, and prepared for administration in substantially the same way as the antidiphtheritic serum, the only difference being that there has not been devised a satisfactory method of standardizing the strength of the antitetanic serum.

Many experiments, many speculations, and many interesting theories have been proposed, to account for the production of the antitetanic serum in the blood of animals during the process of immunization. Some have supposed that the formation of antitoxin was developed directly from the toxin injected, by certain cells of the body. This, however, can scarcely be true, since the amount of antitoxin found in the blood of an animal is many times greater than corresponding amounts of toxin injected, and also for a considerable time after the discontinuance of the injections of the toxin the blood may yield a stronger antitoxin than during the time when the poison was administered. Wasserman and Takaki found that the poisonous action of tetanus toxin was neutralized by bringing it in contact with portions of the central nervous system of guinea-pigs in the form of an emulsion, and that such emulsions of nerve tissues were capable of preventing tetanus in mice against several times the fatal dose of toxin. Donitz, Heymans and other investigators have shown that the cells of the animal body have the ability to combine and neutralize the harmful effects of tetanus and other toxins without producing symptoms of disease, in fact such observation is of daily occurrence in the reactions of patients to the intoxications occurring in infectious diseases generally. These and other facts have caused most bacteriologists to conclude that certain cells of the body are stimulated by the toxin to the production of immune substances, or anti bodies, and since it has frequently been demonstrated that the blood of untreated horses and other animals contains small quantities of antitoxin, it seems probable that the elaboration

of antitoxin by these cells is one of their normal functions. Many experiments have been made to determine the exact chemical nature of the immunizing substances contained in the anti serums, and it is now generally believed that they are globulins or modified globulins that are thrown off from certain unknown cells when stimulated by the introduction of the poisons. While many theories have been offered explaining the curative effect of antitoxin it is not the purpose of this paper to discuss them, but to briefly mention that of Ehrlich, which has been received as the most plausible explanation. Ehrlich, as the result of his own experiments and those of his many co-workers, concluded that the cells of the body consist essentially of molecules of protoplasm containing a central atom group with a large number of side chains, i. e., atom groups or affinities which combine with the molecules of certain food stuffs, thereby supplying the living molecule with nutrition, hence the name receptors has been given to them. A number of different receptors have been supposed to exist, some of which have the property of fixing molecules of simple constitution. These have been called receptors of the first order. The chart, which has been reduced to the simplest possible terms, explains most satisfactorily the formation of the antitoxin molecules and their union with corresponding affinities of the toxin molecule. The large central portion stained brown may be regarded as a cell, from the periphery of which pseudopodia colored red have been pushed out; these are the side chains or receptors. The irregular shaped body stained blue may be regarded as the toxin molecules that have been elaborated by the germs in the patient or injected into the animal during

the process of immunization. These toxin molecules unite with the receptors, thereby rendering them incapable of performing their normal function. The cell, being deprived of part of its affinities for acquiring nourishment, reproduces more receptors, and, as is usually the case with nature, the repair is more than made



- 1 Cell body.
- 2 Attached receptors.
- 3 Detached receptors.
- 4 Toxin molecules.
- 5 Detached receptor and toxin molecule united.
- 6 Attached receptor and toxin molecule united.

good. More receptors being formed than are normally present, the cell not needing these for its nutrition, they become detached and float in the blood current as free molecules of antitoxin. These free antitoxin molecules possess the same power of uniting with the toxin molecules as when they were attached to the parent cell. This overproduction of receptors is increased from time to time by the stimulation of the toxins administered, or during the course of an attack of disease, until finally the animal becomes thoroughly immunized and contains in its blood enormous numbers of the free antitoxin molecules, which prevent any pronounced action following the administration of toxin. In the case of tetanus in the patient, it

seems probable that the anti bodies are formed too slowly to neutralize the toxins as rapidly as produced, when those left over combine with the attached receptors of the cells and thereby interfere with their normal function or possibly in the case of nerve cells increasing their excitability, etc.

To recapitulate, we have the cell protoplasm possessing the property of forming special groups of affinities for the purpose of acquiring nutrition from the surrounding fluids. These unite with the toxin formed by the tetanus germs, the cell is thereby stimulated and an over-production of these affinities or receptors occurs, which become detached and float in the serum as antitoxin molecules, which in turn fix the toxin molecules that are introduced by artificial injections of toxin or are elaborated by the tetanus germs in the wound of the patient.

This union of the antitoxin molecule and the toxin molecule resembles very strongly the reaction occurring when acids and alkalies are brought together, in fact, owing to the marked affinity of these two substances for each other, if precautions are taken, an antitoxin can be actually titrated against a toxin. Instead of using some color reaction as an indicator to show when the union is complete, as in the case of an acid and an alkali, it is necessary to inject the mixture into susceptible animals, but, by varying the quantity of the toxin to the proportion of antitoxin administered, exact neutralization may be affected.

The therapeutic use of antitetanic serum can best be considered under three heads, viz: local application to the wound, administration for prophylactic purposes, and administration for curative purposes.

Calmette and McFarland have shown

by a number of interesting experiments upon animals, particularly the guinea-pig, that it is possible to inoculate these animals with tetanus cultures, then apply dry antitetanic serum to the wound, and thereby prevent the development of the disease, while the control animals almost invariably succumb at the proper time from genuine tetanus. From these experiments it would seem to be entirely rational and to be recommended that in suspicious wounds, besides employing the usual surgical means of eliminating infection by free incision, drainage and antiseptic treatment, that dry serum be applied as a dressing, taking pains to allow the material to come in intimate contact with the surfaces of the wound, in much the same way as one would in the use of iodoform or other dressing powders. One of the most important facts to remember in connection with the local treatment of a wound that may result in tetanus is that the bacillus will not grow in the presence of air or oxygen. Hence it is strongly advisable to open a wound freely and cleanse it thoroughly with peroxide of hydrogen or other suitable disinfectant, indeed it seems almost inexcusable for a physician, knowing this fact, to neglect to open a suspicious wound and treat it as suggested, when the case first comes into his hands. A number of instances have been reported where this has not been done, in spite of vigorous serum treatment the patient dying of tetanus a few days later, when proper local treatment would almost certainly have prevented the development of the disease.

ADMINISTRATION FOR PROPHYLACTIC PURPOSES.

No more certain demonstration of the neutralizing effect of a therapeutic agent

over a poison has ever been made than by the administration of a small quantity of antitetanic serum, mixed with many times the fatal dose of tetanus toxin to a susceptible animal, not a symptom of the disease appearing in such cases. As you will notice in the cage of guinea-pigs you have before you, some of the animals manifest symptoms of tetanus from the administration of minute doses of tetanus toxin four days ago. At the same time these were injected, several others of the animals received many times the fatal dose of tetanus poison, mixed with a small quantity of antitetanic serum. In no instance have these animals been sick, indeed two of the animals have received daily injections of many times the fatal dose of tetanus toxin since the mixed toxin and antitoxin was administered, and still they show no symptoms of the disease. It has been estimated by one authority that the amount of antitetanic serum that will cure a case of tetanus is ten thousand times the amount necessary to prevent the development of the disease, if the serum were given at the time of the infection. Hence the strong recommendations that have been made by those who have studied most the value of antitetanic serum, that in all cases of suspicious wounds a small injection of the serum should be administered as a prophylaxis. Probably ten cubic centimetres would be the average amount necessary for this purpose.

ADMINISTRATION FOR CURATIVE PURPOSES.

Antitetanic serum has been administered for curative purposes in a variety of ways. In most cases the subcutaneous administration of the serum has been given preference, but clinical as well as laboratory experience has shown that it is

necessary to employ an enormous quantity of the serum for curative purposes as compared with the amount required of the antidiphtheritic serum. In the early history of tetanus many of the cases of failure to obtain recovery were due to the fact that the physician was too conservative to administer sufficient serum. At present it may be considered as settled that, where antitetanic serum is administered for curative purposes, the quantity of serum to be injected must be extremely large. An average amount in my opinion should be not less than ten cubic centimeters every six hours, repeated night and day, until symptoms of improvement are noticed. Others will hold that it is better to administer larger quantities at a time and not repeat so often. Perhaps, as in the case of anti-pest serum, it would be still better to administer a hundred or more cubic centimeters into the vein as a first injection, to be followed in subsequent injections according to the condition of the patient. In any case the physician should not hesitate to give large doses of the remedy. Several cases have been reported where hundreds of cubic centimeters of the serum have been administered, resulting in the cure of the patient. In my own experience, I have seen recover from severe tetanus a little girl, 11 years of age, who received ten cubic centimeters of antitetanic serum every six hours for eight days in succession, the injections then being gradually diminished until they were discontinued at the end of the fourteenth day. In this case there was something like four hundred and fifty cubic centimeters of serum administered altogether. Some years ago a French investigator, studying the question of the administration of tetanus antitoxin upon guinea-pigs inoculated

with tetanus, found that he could save a large portion of his animals by trephining the skull, and injecting the serum directly into the nerve tissues, his belief being that in this way the antitoxin would come more quickly in contact, and would therefore unite more quickly with the tetanus toxin under these conditions. Extensive clinical experiments upon patients, have not shown that this method of injecting the serum is preferable to the subcutaneous injection of large doses. Still later there has been reported the introduction of the antitetanic serum in the ventricles of the brain and into the spinal cord. This method of administration may be a good one, but should be regarded as purely experimental. I have treated quite a large number of animals suffering from laboratory tetanus by venesection, replacing the extracted blood with normal saline solution, warmed to the temperature of the body, in addition to the use of serum, with the result that many of the animals, which otherwise would have surely died, were saved. This treatment, however, should also be regarded as experimental.

In conclusion, while antitetanic serum has not resulted in as brilliant results from a therapeutic standpoint as in the case of the antidiphtheritic serum, it should be regarded as the most valuable therapeutic agent we have at our command for the prevention and treatment of this dread disease, but whenever used for curative purposes large and repeated doses must be given, remembering that if it does no good it will do no harm. Its great field of usefulness, however, is as a prophylactic measure before the development of the symptoms of the disease, which have been so truly called by an eminent physician "the symptoms of death."

THE MCGRAW ELASTIC LIGATURE FOR GASTRO-INTESTINAL ANASTOMOSIS.*

S. EDWARD SANDERSON,
Detroit.

With the advancement of surgery, operations upon the upper part of the abdominal cavity are gaining in frequency. The increasing success attendant upon operations on the stomach is determining more attention to that organ from a surgical standpoint. The commonest conditions requiring surgical intervention are those in which an opening is demanded between stomach and intestine, because of partial or complete, benign or malignant pyloric obstruction. Hence we see the increasing importance of a good method for gastro-enterostomy. Of the many methods devised we will in this paper speak only of that method invented and first introduced by McGraw.

While this method is simple in technic yet it is thoroughly efficient and requires no special apparatus other than the ligature itself—accomplishing the desired result in reasonable and sufficient time, at the same time fulfilling all the requirements of such an operation under almost all conditions. The wider education of operators and surgeons in the technic of this operation will result, I firmly believe, in its widened and widening use.

The first step in the operation is making the abdominal opening. Originally this was done by McGraw by making an incision beginning an inch and a half above the umbilicus in the median line carrying it transversely to the left about four inches. This gives most easy access to

the stomach, but as it severs the left rectus muscle it thereby increases the chances for hernia and has been abandoned for the median incision in practically all cases. The opening should be ample in length to permit of free access to the stomach and to allow free handling of both stomach and intestine.

The second step is the finding of the stomach and the selection of the point in it for the anastomosis. This is the same as in any operation for gastro-enterostomy. Formerly operators chose the anterior wall. But as this in some cases produced obstruction by sagging of the intestine the posterior wall was later chosen, reaching it through a slit in the mesocolon. At present some choose the anterior wall, while others following the suggestion of Mayo to prevent vicious circle, choose the posterior wall near the greater curvature, reaching it through the gastro-colic omentum. The preference seems to lie with the posterior wall.

The third step is the finding of the small intestine and the selection of the point in it for union with the stomach. The point to select is the jejunum about four hand breadths from the duodenum. This point is not always easily located. The following method will avoid difficulty: Draw out the transverse colon, putting its mesocolon on the stretch, then by passing the finger from right to left, intestine will be found passing under the ligament of Treitz, which is the jejunum at its beginning. The point to select should be about four hand breadths lower. That the peristaltic action of both stomach and intestine should be in the same direction was formerly advocated by McGraw and for that reason he always made a turn in the intestine. He has since abandoned the idea and likewise the practice.

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Detroit, June 12, 1903, and approved for publication by Committee on Publication of the Council.

Having selected the two points for approximation the fourth step can then be taken, which is to place the first part of the running suture. This is best done by having the assistant hold the two viscera with serous surfaces approximated in lines parallel to the point where it is desired to have the openings made, when a running Lembert suture of silk, catgut or celluloid silk is placed to firmly unite them for a distance of from two to four inches

should be near the mesentery to allow of room for the elastic ligature.

The next or fifth step can now be taken and is the all essential and characteristic feature of the method, all other points being simply aids and accessories. This is the passing of the elastic ligature. A cambric needle, armed with about six inches of elastic ligature, round, smooth and larger in diameter than the needle itself, is passed into the lumen of the gut,

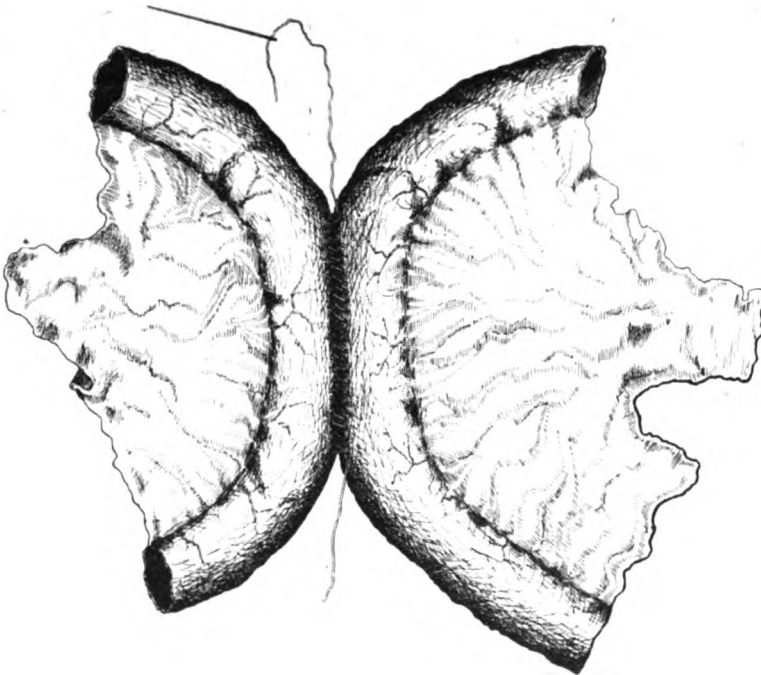


FIG. I.—Fourth step. First running suture of silk approximating serous surfaces.

depending upon the length of the opening desired.

I speak of the three kinds of suture material, catgut, silk and celluloid silk, as all three kinds have been used. Catgut has been abandoned as a permanent suture is needed. Of the other two either can be used though the choice usually is silk. This suture should be secured at the beginning and also at one or more points besides to prevent purse string contraction. In the intestine this first suture

in the long axis, at a point opposite the beginning of the running suture and made to emerge just opposite the end of the same including in its grasp from two to three and a half or four inches of surface. By making strong traction on the ligature it can be made so small that it easily passes through the tissues, again resuming its full caliber when tension is removed and completely filling the hole it made in passing thus preventing the escape of feculent matter in the further manipulations. The

same thing is done in passing the ligature through the stomach wall. The two ends of the ligature are now brought together

slipping. In most cases the first tie of the square knot alone is found sufficient.

Several points for consideration arise

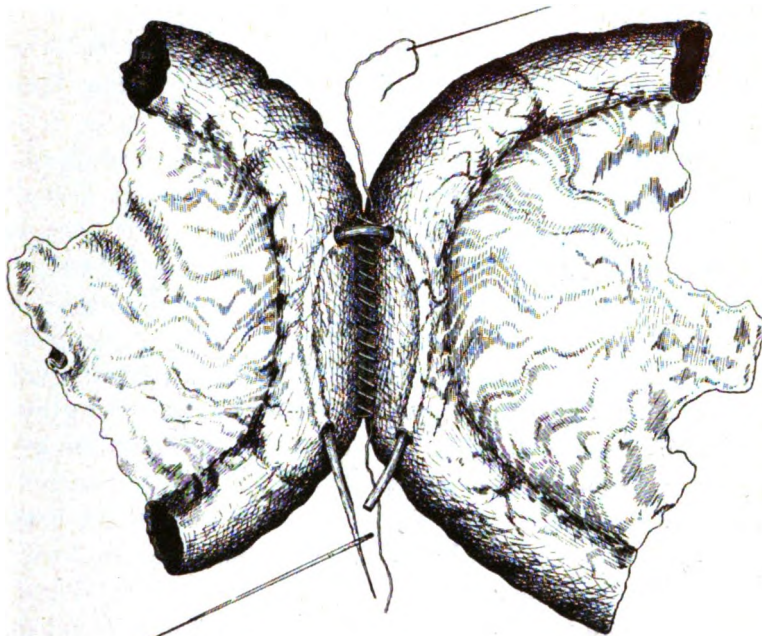


FIG. II.—Part of fifth step, showing elastic ligature introduced into both viscera and ready to tie.

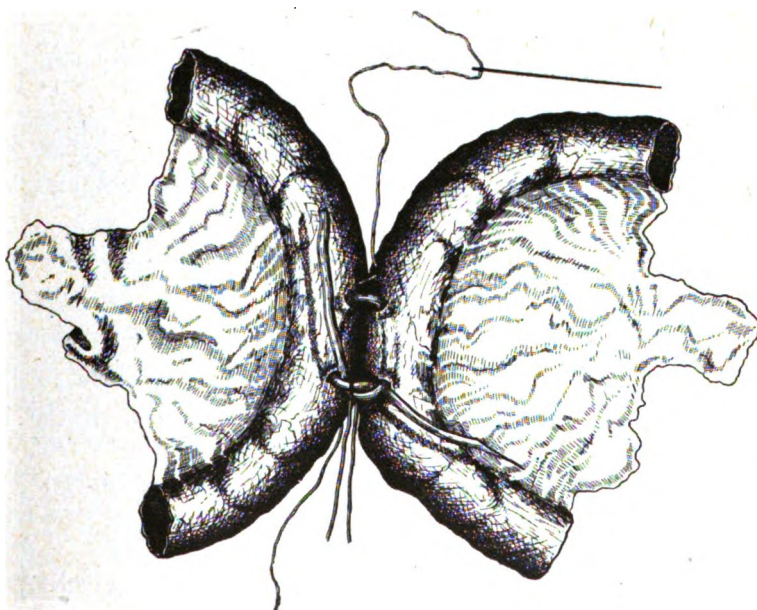


FIG. III.—Continuing fifth step. Ligature partly tied, surrounding tie of silk in place.

and tied in a square knot with the additional security of a strong silk thread tied around the elastic knot to prevent it from

in this connection. The choice of a ligature is a matter of the greatest importance, for upon it and its work depends the whole

success of the operation. The ligature found to be most satisfactory is the one ordinarily used for the ligation of piles. It has the necessary qualities of smoothness, elasticity and great tenacity and is kept in stock by most instrument dealers. It can be thoroughly sterilized by boiling and not be injured thereby, but it will deteriorate with age. By cutting to the desired length and making a taper end it can be easily passed through the eye of the needle to be used. Before a ligature is used its tensile strength should be fully tested. A ligature should be strong enough to resist all the strength of ones hands. In tying the knot after passing the ligature it should be pulled just as tight as possible. Should the ligature break another can be used easily; it is much better for one to break in the operation than to have it so laxly tied that it will not cut through.

The common cambric needle is the one of choice for the ligature though other kinds can and have been used.

In the tying of the knot the wall of the intestine as well as the wall of the stomach is thrown into deep folds; but in the course of a few hours these begin to smooth out and soon disappear so that when the opening is completed at the end of three days or more the wall is flat as normal.

The opening in the intestine should be opposite the mesentery.

With the ligature tied and secured the sixth step should be taken, which is continuing the running suture of silk around the elastic knot to surround and bury it to cut its way through.

The seventh and last step now remains, viz: to close the abdomen, the selection of a method resting with the operator.

The shock following this operation is no greater than that in most operations of like gravity, yet several cases are reported where patients have died within 60 hours following the operation without any assignable cause being found at the autopsy.

I will not here speak of vicious circle further than to say that during all the work the possibility should be ever in mind of its formation and everything done to prevent it. To avoid this grave condition some have advocated the making of a second opening between intestine and intestine. This gives free drainage to the duodenum which is the portion entering into the formation of vicious circle with the first portion of the jejunum.

To summarize, the steps of the operation are:

- (1) Opening the abdomen.
- (2) Selection of point in the stomach for anastomosis.
- (3) Selection of point in the intestine for anastomosis.
- (4) The first running suture of silk.
- (5) Passing and tying the elastic ligature.
- (6) Completing the running suture of silk.
- (7) Closing the abdomen.

I wish to emphasize:

- (1) The need of the ligature being strong.
- (2) The necessity of a tight knot.
- (3) The necessity of a large opening.

When one has gained a familiarity with this method it proves to be one most simply and quickly done. In the hands of the operators who have given it a thorough test it has proven to be thoroughly efficient.

HEADACHE.*

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Headache, although a symptom rather than a primary disorder, is frequently so prominent and disturbing a symptom that from the patient's standpoint it constitutes the disease itself. The history of every case will vary in many particulars, but all will be the same regarding the continuous, more or less severe, headache; as until this becomes constant relief is not generally sought. Even the characteristic periodicity of migraine has disappeared or been obscured by a constant ache. But the history of the onset, the character and location of the ache, the exciting causes, and the general state of the patient will be necessary for a correct diagnosis and treatment.

The pathology of headache is that of the general system rather than of the nerves giving rise to the headache, except in organic brain disorders, which give rise to a class of headaches not to be considered here except as to their differential diagnosis.

The most frequent general condition, and indeed one that is present in all, is a lithæmic—or uric-acid diathesis. Both these terms are open to discussion as to their exact meaning, but in accordance with the latest investigations we understand by them a condition in which there is an autotoxæmia due to the suboxidation of the waste products of the body. The toxic products are the ammonium

compounds of the Xanthin bodies. These products circulating in the blood in these particular instances cause such irritation of the nerves supplying the cerebral meninges, and in migraine of the fifth nerve generally, and frequently of the upper cervical that the syndrome of headache is the expression of the constitutional state. Underlying this uric-acid diathesis there is deficient action of the nervous system primarily. This is evidenced by the hereditary history of these cases: Rheumatism, neuralgia, migraine, or some nervous disorder in a number of generations.

Given this general constitutional state, there must be some reason for its chief expression as headache.

These reasons are found in the exciting causes which vary in nearly as wide a range as the individuals themselves.

Eye-strain, nasal, throat or ear troubles, carious teeth, disorders at a distance, as menstrual disturbances, all must be sought for and eliminated before treatment can be successful. Overwork, mental or physical; or emotional strain—any one may play a rôle in the etiology of headache, and again must be considered in the treatment of the same.

The symptoms may be the characteristic ones of migraine, the constant headache varied by severer attacks when the pain is at first localized in one-half of the head, generally the left, at the temple, passing over to the back of the neck and finally invading the other side of the head. These symptoms are combined frequently with nausea, sometimes with vomiting; and with various paræsthesias of the general or special senses.

This severe attack lasts as a rule twenty-four to forty-eight hours, terminating in sleep. Or another description is that of pain beginning in the back of the neck and

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gradually involving the whole head. After such headache the scalp is sore for a day or two. Again, the pain may be confined to the back of the neck and there may be a "drawing" feeling here, with pain or aching along the length of the spine.

In other cases there is a rush of blood to the head, a blurring of vision, extreme aching at the base of the brain, with mental confusion.

Headaches of any sort long continued incapacitate the patient for work, mental or physical, make him irritable and moody in disposition, and his life a burden. Frequently these patients fear insanity as a result of the headaches.

The characteristic points in headache are the pain, its location, mode and time of onset, and duration.

Headaches due to organic brain disorders, tumor, syphilis, to Bright's disease, diabetes or uræmia can be recognized either by special cerebral symptoms and the history in the one case, or by careful urinary analyses in the others.

With the headache of tumor optic neuritis, and at some period of the case disturbances due to the involvement of cortical areas, are found. The syphilitic headache comes on or increases in severity toward night.

In reality the diagnosis of headache, as its pathology, is that of the constitutional condition.

It must also be borne in mind that headache is a common symptom in the infectious diseases, and they must be eliminated before a diagnosis is made.

In ocular headaches the pain as a rule comes on after use of the eyes or any strain, as bright light. Rest of the eyes relieves, and the wearing of glasses in

time cures. The pain is not always localized.

Anæmic headaches may also come on after use of the eyes, and frequently there may be a combined condition of anæmia and ocular strain. The anæmic headache is brought on by any exertion; it is a generalized ache as a rule, but may be unilateral or supra-orbital. In migraine or hemicrania we find the pain localized in the beginning to one side of the head, accompanied by nausea, vomiting, flashes before the eyes, tingling or numbness in the lips, side of the face or along the arm of the affected side, which is generally the left.

The important point both as regards prognosis and treatment in the individual case depends upon the recognition of the cause and the possibility of its removal.

The treatment is of two orders: That of the constitutional state, and that of the exciting or auxiliary causes.

Taking the latter first the case must be thoroughly examined in every particular to determine exactly what factors are at work. These being established, they must be removed as far as possible. Eye-strain must be met by proper glasses or operation; the ears, teeth, nose and throat all must be put in as normal condition as possible in order that all irritations may be removed. If menstrual difficulties are present they must be treated.

Next, as to the constitutional treatment. The indications are first, for the removal and counter-action of the toxic products; second, for the establishment of the normal oxidations of the waste tissues of the body.

The first is brought about by free elimination from the intestinal tract, and by means of the kidneys and skin. To counteract the toxic products intestinal anti-

septics must be employed, as it is from this part that these bodies gain entrance to the blood stream.

To bring about normal oxidation means that every organ must be restored to its full function. These all depend upon the nervous system, so that the primary point of attack is there. And first of all to meet this indication the hygiene of the patient must be corrected as regards work, rest, habits, diet and exercise. Neither foods nor drinks that tend to increase the work of the organism should be allowed; the patient should have long hours of sleep, and exercise in accordance with his powers.

Nerve tonics, especially those containing phosphates, are useful. Hydrotherapy in the form of warm baths, cold sponges and salt baths keep the skin in good condition and reflexly stimulate the nervous system.

Static electricity is a powerful adjuvant in the treatment of the constitutional state. It is given as a breeze followed by a half minute to one minute application of sparks along the length of the spine, the sparks varying from a friction spark to one of an inch in length. By this treatment every cell in the body is stimulated to better and more vigorous action; in consequence of which elimination is increased from every excretory organ, and the patient's circulation, digestion and general feeling are improved.

Early in the case it will be necessary to meet the severer attacks. The remedies used for this by their multiplicity show how unsatisfactory they all are. The principle guiding their selection is sedation without undue depression.

In addition to remedies, a mustard paste at the back of the neck, a hot pedi-

luvium, rest in a quiet, darkened room materially relieve the discomfort.

The following cases illustrate the varying exciting causes and the nearly general constitutional state of suboxidation, with results of treatment.

CASE I.—May 26, '96. Patient female, aged 45 years. Mother living, aged 68, good health now, but used to be troubled with neuralgia and sick headache.

Family history otherwise negative.

As a child patient was healthy. Had the usual diseases of childhood with no sequelæ.

Menstruation established at 13 years, normal.

Married at 23 years. Has borne 5 children. One miscarriage due to lack of strength 11 years ago.

About ten years ago began to feel trouble with her head. There was a rush of blood to the head and constant pain in back of head, and pain along the length of the spine. There was blurring of the eyes with rush of blood to the head, so that the patient ran into objects; a buzzing noise in the left ear.

At present the condition is an increase of the former for the past two years. Now at times has to go to bed with headache, it is so severe. This is at the time of the menstrual periods. Last month had to go to bed one week before time of menstrual period with severe headache and was delirious, "hystericky," and at times unconscious or comatose.

Menstrual flow was absent. Nose bled slightly. Was troubled with fluttering of the heart.

Has great pain across small of back and kidneys. Has a chilly feeling in limbs, while spine is burning hot. Frequently has chills in the morning. Complains of

pain in ovarian regions, in limbs, and of general weakness.

Examination:—Heart and lungs negative. Constipation. Tongue coated.

Genito-urinary examination:—Cystocele, lacerated cervix eroded, cervical endometritis. Uterus measured 3 inches, tender, congested. Albuminous discharge.

The sciatic, anterior crural, ilio-inguinal nerves all tender on pressure, also those of the upper extremities. Tenderness of spinal nerves all along spine at their emergence; sacro-iliac joints tender to pressure, and also sterno-costal cartilaginous joints; both left and right.

Urinary analysis showed high specific gravity and uric acid in excess.

An analysis of this case shows two factors: First, the congested condition of the uterus, which, with its accompanying menstrual disturbance, produced periodically circulatory disturbance of the head severe enough to bring about coma and delirium with the pain; second, an inflammation of the nerves generally throughout the body, which accounted for the constant headache and spinal irritability. The treatment was based upon this analysis.

The endometritis was treated by the use of the direct current, and uterine tonic medication; with the addition of hot teas and hot foot baths at the time of the period to insure a sufficient flow. The neuritis was treated by anti-rheumatic remedies with free elimination, and the static current daily, the breeze followed by the spark along the spine and over the inflamed nerve areas.

As a result of treatment the patient experienced relief at once. So that at the June menstrual period—two weeks after beginning treatment, the flow was of normal duration, and she showed only slight

symptoms of headache, controlled fully by one dose of 10 grains of potassium bromide. Reported during this time that she felt better than in two years. After two months of treatment patient was dismissed, as she considered herself well enough to leave. From time to time she reported continued freedom from headache.

CASE II.—Dec. 12, '92. Female, aged 41.

Family history negative.

As a child patient never remembers being sick except with sick headaches.

Menstruation established at 14—normal.

Married at 21.

One miscarriage at 22 due to carelessness; good recovery.

Has borne five children.

Three years ago suffered a second miscarriage; cause unknown.

Has been subject all her life to headaches about once a month, generally occurring a few days before the menstrual period, the onset of flow relieving headache.

While pregnant never had headache.

These headaches are accompanied by nausea and at times by vomiting. Pain is across the forehead. At these times very nervous; everything disturbs her.

About four years ago had a "nervous attack." This came at night with headache in back of neck, next morning things swam before her eyes, was dizzy, head ached worse, could not stand. Pain continued in back of neck for four to five months. Was confined to bed with it. Pain made neck stiff and drew the head back. Could not bear the light, it made her sick. Could not look at people or objects. Scalp was sore. Could not bear any weight on the head.

Gradually gained use of eyes. Thinks during this time left eye turned out.

Present condition:—Since four years ago has had more or less constant pain in back of neck. Drawing and stiffness of back of neck, scalp sore and tender. Head aches constantly, though worse by spells. Feels irritable, head is confused, fears she will lose her mind if headache continues. Headache makes her sick at her stomach. The more severe attacks depend on excitement and occur a few days preceding the menstrual periods. They last about 24 hours beginning in the morning. Pain is a *beating one*, weakens patient. Patient is pale during headache and incapacitated. Appetite is good. Bowels regular. Tongue very slightly coated. Pulse 102. Palpitation on exertion. Examination of heart negative except as to irritability and rapidity of beat.

Temperature 99-7°.

Genito-urinary examination, negative.

Urinary analysis, negative.

Excessive tenderness of the occipitalis major nerve on left and upper cervical nerves on left and of chest joints especially at the junction of the 4th and 5th ribs with their cartilages. The nerves of the extremities are generally tender.

Here again the inflamed condition of the nerves is the explanation of the constant headache. This explains the drawing and sore feelings, the confusion of mind and irritability.

The treatment was directed toward eliminating the cause of the neuritis, which appeared to be a rheumatic one.

The patient was put upon daily doses of sodium phosphate and salol and phenacetin, with daily treatments of static electricity. This again as the breeze for eight minutes, followed by discharging sparks along the spine especially over the

neck, at the back of the head and over tender points on chest and over extremities; in fact, wherever tenderness had been found in examination.

As soon as the temperature became normal the phenacetin was discontinued and the salol given alone before meals with a nerve tonic after meals.

Treatment began December 12th, and was given daily till January 21st, after that every other day for 3 weeks; and finally only just preceding menstruation.

From the beginning of treatment to the present time patient has had but three headaches, and those three were during the first month and after sufficient cause. One occurred after a day's shopping in the city combined with Christmas doings. One after an experience in a railroad wreck, and the other after a long day's visiting. These headaches were all controlled by not more than two migraine tablets, and mustard paste at neck, patient not finding it necessary to keep quiet more than an hour or two.

This result is in contrast to twenty-four hours duration, sending patient to bed, of the severe headache, and continuous slight headaches. Patient's mind lost its confusion, her family noticed the change in her disposition. She became cheerful and energetic again.

CASE III.—Jan. 4, '03. Patient female, aged 34. Father living aged 80, good health, subject to sick headache.

One sister died at 38 years of consumption, following la grippe.

Patient was born prematurely at 7 months. Had whooping cough at 6 weeks. Did not grow much for one year. Was so small she used to be drawn about in a doll's carriage.

At 7 years had rheumatic fever. Good recovery. No return. Of children's dis-

eases had measles and scarlet fever between 15 and 16 years of age, no sequelæ.

Menstruation established at 14 years. Began at this time to be troubled with terrible headaches. Had to stay out of school one year. Pain was then in the back of the neck nearly all the time. It did not depend on time of menstrual periods.

Eye examination at this time showed her to be hyperopic-astigmatic and putting on glasses relieved her headaches.

Dysmenorrhœa from the beginning, relieved three years ago by operation—cervix dilated and uterus curetted.

At 19 years had a long siege—ten months—of nervous prostration.

Patient had taught school ten years.

For last ten weeks has had constant headache and pain in back of the neck, which once a week has increased in severity so that for 24 hours it has been unbearable.

The pain begins in one temple, going over to the other side later. Breathing is disturbed by the pain. Sleeps well as a rule.

Appetite is fair. Is troubled some with nausea. Bowels are constipated, tongue shows a brownish coat. Pulse 66; *weak*. Temperature 99-6°.

Examination shows marked tenderness on pressure over occipital majors and upper cervical nerves, especially on the left, tenderness on pressure over circumflex, musculo-spiral, median, ilio-hypogastric, ilio-inguinal, sciatic and anterior tibial nerves, as well as over shoulder points and the chest joints. This tenderness is more marked on the left.

The patellar reflexes are exaggerated. Patient shows a tension and rigidity of the muscles generally. Her mind is de-

pressed, feels a blank, and she fears insanity.

Urinary analysis shows high specific gravity with uric acid.

Treatment was directed toward elimination at first with calomel, followed by sodium phosphate. Salol and phenacetin were given till the temperature became normal, and this was followed up by a nerve tonic.

As this patient had a history of exhaustion and showed poor nutrition, she was put upon olive oil with her meals and milk between meals.

With this medication static electricity was employed in daily treatments. The breeze alone was given for a number of days, then the spark treatment was added.

Patient was under direct care only one week, but continued same line of treatment at her home, and in five weeks time from examination reported only one headache with entire freedom in the interval.

CASE IV.—May 8, '03. Patient female, aged 28, *student*. Father living, aged 55, subject to nervous headache and rush of blood to the head.

Mother living, aged 53. Has had stomach trouble and rheumatism for years.

Has three sisters living. One has heart trouble, one nervous trouble.

One brother dead—heart trouble.

As a child well and strong. Never sick in bed. Had the usual children's diseases, she thinks, but they never gave her any trouble.

Menstruation established at 13 years. Normal.

The present trouble began four years ago as a nervous break down. She was very weak, unable to do anything at all for five months. After that went back to college and seemed all right for about five or six months, when she gave out

again, and headache became a prominent and frequent symptom. These would occur once or twice a month.

Headache would start at back of the neck, go up to left temple and left top of head. Pain was a dull, gnawing one. Knows nothing of duration, as she has always taken medicine for the pain. Head is sore afterwards.

At present for four months headaches have been more constant and severe. For last two or three weeks headache nearly all the time.

Is nervous, sleeps poorly. Unable to study for one month. Has an ache at end of the spine after sitting. Has worn glasses for ten years for hyperopic-astigmatism. These glasses changed four months ago. No benefit from this.

Appetite good. Constipation. Stomach easily disturbed. Mucous membranes anæmic, color of face pale. Complains of palpitation and pain in heart. Pulse 66, weak. Temperature normal.

Urinary analysis: high specific gravity, excess of uric acid, hyaline casts.

Examination showed tenderness on pressure over left occipital major nerve.

The deep reflexes—triceps, wrist, and patellar were exaggerated.

In this case there are two factors: the eye difficulty, which is excessive, but whose correction has not relieved the headache in any particular; and the anæmia, which is really the main trouble. The treatment, based upon these facts, consisted of enforced rest, milk, in addition to regular diet, hæmaboloids, salol and static electricity.

This patient is still under treatment. By means of the above care she has been able to take up her university work, and is taking her final examinations. The continuous headache has left her so that

for a week or ten days at a time she has had none at all, with an attack once in a while on trying to do extra work. These attacks are much shorter in duration than formerly, and have been relieved by a mustard paste at the nape of the neck. She has taken nothing directly for the pain.

DISCUSSION.

W. A. Ferguson, Sturgis: Headache is frequently caused by eye-strain, mental strain and digestive disturbances.

Dr. Bruce: A headache is a very much more complex phenomenon than many of us appreciate, and it is only by a very thorough knowledge of the physiology and pathology of the subject that we can deal with it in a therapeutic way.

A. E. Bulson, Jackson: It is my experience almost daily to meet with patients who have undergone a long, protracted process of general treatment, along a variety of lines, for headache, nervousness, disturbed menstruation, and other ailments, with no appreciable relief, and who have been sent, as a last resort, to the oculist in order to determine the possibility of the whole trouble being due to some reflex disturbance caused by refractive error.

I wish to emphasize this one point, that every form of refractive error operates, by its reflex action, upon the various functions of the body. You may mitigate the troubles, in a measure, by general treatment, and make the patient quite comfortable for a time, but your hopes form only a delusion, for sooner or later the reflex disturbances return with increased vigor, with the result mentioned, that the oculist is consulted to ascertain if the trouble may not be due to eye-strain.

The effort of nature to produce perfect vision is what causes the disturbances of the various functions, and gives rise to the long train of ailments mentioned in the paper, and these will not yield to treatment, unless the cause is removed by the correction of the refractive error.

I am heartily glad that this subject has been brought up at this time, and in this section, for, as a rule, when these topics are to be discussed, the general practitioner is apt to "Fold his tent like the Arab, and silently steal away,"

so it seems opportune that the attention of the general physician has been called to these important matters.

I often meet with patients who have passed through the hands of some optician, and who are wearing glasses that have no relative bearing toward the real refractive condition present, but on the contrary, wearing those diametrically opposite, thus "adding fuel to the flame."

It is needless to say that it is of the greatest importance that in supposed ocular disturbances, especially of a reflex nature, that the general physician should send his patient to some competent oculist, who is able to make an intelligent and scientific examination of the eyes.

My experience has been that where an error of refraction has been found to exist, that properly adjusted glasses give the desired relief, and the disturbed functions assume the normal. I want to say here that it is not necessary for ophthalmologists to make a defense as such. I think most of you are aware that refractive errors are of various degrees, usually from one to five, and sometimes even eight dioptres. In overcoming these errors few oculists give a full correction in lenses. When I was a student at the New York Eye and Ear Infirmary under Dr. Noyes, whom you all know, I found that he very seldom gave more than one-half or one-third of full correction, and this is the fundamental part of the treatment—to find whether this will overcome the refractive error and the reflex phenomena that follow it.

There may be several degrees of hyperphoria, esophoria or exophoria which an oculist might not consider of sufficient importance to correct, thinking that perhaps the correction of the astigmatism may overcome the trouble. If, however, after wearing the lenses, there is no amelioration of the disturbances, it is the duty of the physician to return the patient to the oculist for another examination.

It may require from three to six months of discomfort to accomplish the desired result. One of the professors at the University of Michigan asked me the question if it was my practice to give patients full correction, and I replied that it was not usual for me to give more than one-fourth to one-half correction, whereupon he remarked that he had been wearing his glasses fifteen months and had not overcome the difficulty. This is simply an illustration showing the amount of time

that may be required for the refraction to adjust itself to the new condition. The glasses were adjusted by a prominent oculist in Philadelphia and the professor was satisfied in his own mind that the adjustment was correct.

In New York a great many of the older oculists (Prof. Knapp in particular) give patients full correction or very nearly so, and they very often come back saying they are unable to wear the glasses, but they are invariably told to "put on the glasses and wear them" until they have overcome the unpleasant sensations.

It is common for patients of this kind to become discouraged and think the oculist has made a mistake, and often the physician is in sympathy with this feeling and seeks to relieve the patient by other means.

The general physician should be able to diagnose refractive errors, especially in headaches among school children and in neurotic cases. With this fact once established the remedy is easily applied. I do not claim that all headaches are caused from refractive errors. I often find patients who are suffering from headache whom I return to the general physician.

I have great faith in the use of electricity in cases of reflex disturbances caused by refractive error, and by proper application, it is a valuable aid in the adjustment of the accommodation.

C. H. Johnston, Grand Rapids: Some headaches are incurable by any treatment. Quite a per cent, I think, of migraines are hereditary. I have known headaches to follow along down three or four generations. At the American Medical Association meeting in Columbus four or five years ago, there was read in the Section on Neurology a paper on Headaches. During the discussion one of the doctors convulsed the section with his personal experiences with sick headache. He told of a number of cases of sick headache in his own family for the last three or four generations. He said he had tried all the new remedies as well as the old ones, and concluded that the only treatment he could apply to himself with success was to go to bed, shut himself up in a dark room and starve himself for a day or two until his headache disappeared. So we need not be ashamed when we learn that there are a number of cases we are not able to cure. In such instances we can only follow the advice of the doctor I referred to.

Johann Flintermann, Detroit: I rather hesitate to make a remark upon the topic under discussion. I believe if there is a nervous strain on the muscles of the eye, it is very often due to a neurasthenic condition of the patient. Now, all cases of neurasthenia will have a symptom of headache, and when we have a case of simple headache due to neurasthenia and examine the eye muscles very carefully, I think we will come to the conclusion that this headache will get a great deal of relief by proper use of glasses. I want to say to the oculists, who have spoken before this society with such great confidence and who have given a little rub to the general practitioner, that I know of a great many cases where oculists have advised glasses and where there was relief only for a short time. In some cases no relief was given at all.

Headache means that there is something wrong; we are not always able to know whether it is a functional disturbance or whether there is any organic degeneration of the tissue of the brain or the nervous system behind it. I remember a great many cases of serous meningitis where the patient had severe headache, where the cause could not be found. All at once you see the headache increase and finally nausea was observed and constipation, pointing to a very serious disease of the meningeal membrane and the patient died. In such a case there was a chronic meningitis, and such cases ought to be known by the profession in order to account for danger symptoms.

I was called to see a case a few years ago where a woman had persistent headache for weeks and weeks. All functions were normal, and I am very sorry to say I did not have this patient sent to an oculist for examination, to see the condition of the optic nerve, but in cases of serous meningitis the condition of the optic nerve does not always show degeneration. This woman died and the postmortem showed that the woman died of a serous meningitis.

If we have a case of headache, we should look out for syphilis, for tubercular degeneration or for some anæmic condition. Headache very often is a forerunner of epilepsy. There are a great many cases of epilepsy which develop in later life where severe headaches were the premonitory symptoms. It is known that hemicrania is somewhat related to epilepsy. It is a short step from hemicrania to epilepsy, and where we observe hemicrania we should make in-

quiries as to some history of epilepsy in the family.

Headache may be one of the early symptoms of neoplasm. There are many cases of neoplasm which show only one symptom and that is a headache.

Headache is a very uncertain and very unsafe symptom. It should put us on the lookout to expect severe danger.

The treatment of hemicrania has been touched upon. I feel there is hardly any remedy which will cure hemicrania. Bromides have been recommended. In cases where there is in the family history epilepsy, to relieve attacks of hemicrania, rest and bromide have been recommended. As practitioners we have to do something to relieve the pain and suffering of the patient, and I guess there is no better remedy, although it belongs to the very much despised family of coal-tar preparations, than migrain. Lately I have used with some good results pyramidon.

Headaches may be due to cerebral abscess, uræmia and to different infectious diseases, intoxication, alcoholism, lead, etc. To do justice to the topic "Headache" requires more time than the five minutes allowed by the rules of the society.

T. A. Rutherford, Grand Rapids: I think all that has been said is mainly true in regard to the different varieties of headache with which we have to deal. One thing that I wish to emphasize is the detriment which our patients receive from the use of the coal-tar products which are prescribed so indiscriminately.

Unfortunately I have been a person who for a great many years of my life never passed more than a week without a serious headache. I found that in America and Europe wherever there was an Armstrong or a Rutherford that resembled either side, they all had a characteristic migrain without exception; all varieties of medicine have been tried on these people without particular success. If there was an east wind blowing, there was sure to be a sick headache in the family, no matter how healthy the individual might be.

I have had over thirty years of experience and as Grand Rapids is noted for its specialists every class of eye strain has been first excluded; our specialists are especially good diagnosticians, and, as you may imagine, everything has been brought to bear to ascertain the real cause of the disease, but I have found recently a better way which has not yet been

emphasized but which was given by your essayist and that is the static electricity. I can quote one case in the time limit, perhaps, that will show you what is accomplished in many cases. I have in mind a patient who is thirty-two years old, whom I have known from a child; she was married at twenty and had one child; she has had severe headaches since her menstrual life began; her child was two years old, and it was decided that the headaches were the result of some disease of the ovary; both ovaries were removed. She has been under the best physicians of the city from that time on for ten years. She came to me the first of last September saying that the longest time she had been free from a severe headache was nine days; she had just returned from one of the northern resorts, where she had spent the last two months. Being a woman of means, everything was done that could be done to relieve her; she had no eye strain; no special rheumatic tendency could be discovered; the urine was normal; the temperature normal; she was treated daily for twenty applications and had only one attack of headache, after that every other day for another month and from that time on she has not had a headache; this after ten years—yes, fifteen years—of the best treatment that she could have from a variety of physicians. The only way I have treated her was with the static electricity. I might quote dozens of cases which have been relieved by static electricity as Dr. Solis has recommended.

A. W. Ives, Detroit: I have had patients come to my office who have been treated by me and by others for headaches so severe they could scarcely stand. These patients after taking the static breeze for fifteen minutes to one-half hour go away relieved and practically cured for the time being.

C. W. Hitchcock, Detroit: It is rather presumptive in one who has not heard the paper to enter into this discussion. I simply rise for a few words upon this general subject of headaches, and although it was not my privilege to hear the paper, I will follow the example of others.

It seems to me that this is worth observing, that while it is well known that the static breeze in some cases seems to relieve a headache, it is also well known that galvanism in many cases will do the same, and while gynecologists by treating the ovaries or the uterus or investigating rectal conditions will relieve

headaches due to reflex disturbances, we must not lose sight of the fact that headache is not a disease; it has, like epilepsy, a diseased condition producing it. We know but little about it. When the gynecologist and rectologist and all the other 'ologists have finished describing all the possible disturbances which by reflex influences may produce headaches, there will be left a large class of headaches no less persistent but seemingly amenable to no treatment that yet come to us for treatment. One trouble is, we know but little about what the cerebral circulatory conditions are at these times. Some very commendable investigation has been going on, and I think a Cincinnati man has called attention to the close relation between migraine and epilepsy and he has made some very interesting examinations of the urine at the time of the headache and at the time of the convulsion and he advances the theory that these disturbances are caused by paraxanthin in the urine. And so there will be numerous other claims made. We as yet know but little about the diseased conditions and let us hope that future investigations will give us more light, but we should remember all the time that it is only a symptom that we are talking about and not a disease.

C. B. Stockwell, Port Huron: Twenty-three years ago I abandoned the use of mydriatics in testing eyes and got better results without it in the relief of headaches. Lately, while in New York city, I learned that the use of mydriatics was being abandoned, because a greater number of headaches were relieved without than with the use of mydriatics.

J. J. Mercen, Holland: An enlarged lower and middle turbinate is sometimes a cause of headaches. There are a great many cases of headaches, especially those over the eyes, and running to the back of the head, that I think are due to this enlargement. A cauterization will very often relieve this condition altogether.

Willis S. Anderson, Detroit: I would like to call attention to obstructive lesions of the nose, and to sinus disease as a cause of headache. Involvement of the sinuses often gives rise to very severe and persistent headaches. The pain may be orbital, frontal or referred to the center of the head and described as severe and boring in character. These cases are difficult to diagnose. Where one has a muco-purulent discharge from the nose, espe-

cially if it be unilateral and accompanied by obstruction and pain, it is well to think of nasal or sinus disease as the cause of the pain.

F. S. Conover, Flint: Just a word regarding the use of the cycloplegic and mydriatic. Examine your patient carefully under mydriatic or cycloplegic and a physician who has not done this has failed in his full duty. I state this from personal experience. For six years I was a terrible sufferer from sick headache, so much so that three days in the week I went to bed. I consulted oculists in this state and they passed me up. I went on; I met Dr. Colborn of Chicago in 1900. He used the mydriatic; gave me proper correction, and my headache disappeared. I want to say that I believe it is the duty of every physician to use the mydriatic in these cases.

D. E. Welsh, Grand Rapids: I think that headaches are simply an expression and not a disease of itself, and I do believe that 80% of all the cases of headache would be relieved by taking care of eye strain or some refractive error. We must bear in mind there are two conditions of refractive error: First, that which is always ascertainable and that which is brought out under the influence of mydriatic. It is the small errors that give the most trouble and especially those that are associated with lack of muscle balance. If we take into consideration all these causes associated with lack of muscle balance however small and correct them in connection with the amount of latent difficulty, and bring our patients under the use of a lens which corrects the latent difficulty either at once or gradually to their full correction, I think we can remedy all these headaches. I do believe that in cases of children from eight years up to eighteen or twenty, barring myopic conditions, if refracted properly on account of headaches, that within a year or a year and a half, they will get along without any glasses whatever.

PATHOLOGICAL CHANGES FOLLOWING LACERATIONS OF THE CERVIX.*

R. L. MORSE,
Ann Arbor.

From the time of Emmet's first communication on the "Surgery of the Cervix

*Read before Section on Gynecology and Obstetrics at the annual meeting of the Michigan State Medical Society at Detroit, June, 1903, and approved for publication by the Committee on Publication of the Council.

Uteri" in 1869 to the present, the changes following lacerations of the cervix have been carefully studied by numerous investigators with the result that our knowledge of the minute anatomy of the lacerated cervix has been greatly increased. In the present paper, I shall confine myself chiefly to the histological changes in the mucosa of the cervix and their relation to malignancy.

For convenience, the mucosa of the cervix may be divided into two parts, the cervical canal and the vaginal portion. The cervical canal extends from the internal to the external os. It is lined by a single layer of tall columnar epithelium with basal lying nuclei. Beneath these and opening into the canal, are numerous acinous glands,—the cervical glands. The vaginal portion is covered by stratified squamous epithelium. Beneath the epithelium of both the cervical canal and the vaginal portion is a well-defined layer of yellow elastic tissue.

The junction of the columnar epithelium of the canal and the squamous epithelium of the vaginal portion, which occurs normally at the external os, may vary through anomalies in development:

1. Congenital ectropion, where the columnar epithelium extends outward beyond the external os, over the anterior and posterior lips as two tongue-shaped streaks.

2. Congenital erosion, where the canal near the uterine body is constricted and expands outward toward the external os; the funnel shaped cavity being lined by columnar epithelium.

3. Where the lower part of the canal is covered by squamous epithelium and in the upper part changes directly into cylindrical.

These variations in the mucosa are im-

portant in that later, through inflammation and irritation, they may undergo changes similar to those conditions arising from laceration.

Through laceration of the cervix there is a loss of continuity at one or more points in the cervical ring. In the spontaneous healing, unless it be anterior or posterior, there is more or less deformity resulting. In the case of bilateral laceration, the anterior and posterior lips are forced from each other in the direction of least resistance, the integrity of the external os destroyed and the cervical structures rolled outward, giving rise to ectropion. As a result, the circulation in the cervix is impaired and the tissues become engorged and swollen. The columnar epithelium of the cervix, with the underlying glands, being thus rolled out into the vagina, are subject to further inflammatory changes by virtue of their unnatural position.

Instead of being in the alkaline and practically sterile condition of the cervical canal, these same structures are now in the acid and infected secretions of the vagina. Sooner or later, through irritation, congestion and infection, there is set up an endocervicitis, which exaggerates the existing condition. Very frequently the process extends upward, giving rise to infective endometritis, metritis, salpingitis, parametritis, and oophoritis. As a result of one or more of these conditions, the size and weight of the uterus is increased, thus forcing the cervix lower in the vagina. The normal excursions of the uterus during respiration and walking further irritate the inflamed cervical structures. The endocervicitis, endometritis and irritation give rise to the so-called "erosions" of the cervix.

By erosion is meant the extension of the cervical columnar epithelium and glands beyond the external os, its normal limit, or beyond that point which is first occupied as a result of ectropion.

This extension is produced in three ways:

1. By a shelving off of the upper layers of the squamous epithelium down to the basal layer, through maceration, and a rotation of the axis of mitotic division from perpendicular to parallel to the surface, thus afterwards producing a simple instead of a stratified epithelium,—a metaplasia.

2. By a gradual shoving back of the squamous epithelium by the advancing columnar.

3. By a complete desquamation of the squamous epithelium and a replacement by the columnar.

The columnar epithelium having replaced the squamous by one or more of these processes, forms glands by invagination, using the papillary depressions as starting points.

The eroded surface appears redder than the normal cervix because the single layer of columnar epithelium permits the blood in the capillaries of the stroma to be seen through it more readily than through the many layers of the stratified squamous.

There are three types of erosion:

1. Simple, in which the columnar cells replace the squamous with no important participation of the glandular apparatus.

2. Papillary, in which there is an increase in the size and number of the cervical glands and a proliferation of the stroma between the glands, giving rise to papillary excrescences.

3. Follicular, in which the underlying glands are distended by their secretions, forming cysts.

As a result of ectropion and erosion there may be a desquamation of the epithelium, either columnar or squamous, with but little inflammation, or the process may be accompanied by marked inflammatory reaction, necrosis of the surface, small cell infiltration, new blood vessels, and exudate, in fact, in all respects an ulcerative process.

When the immediate causes of the erosion, desquamation or ulceration have subsided, i. e., the irritation, endocervicitis and endometritis, there is a tendency for the part to heal. The final result of the healing is either complete, the eroded surface being again covered by squamous epithelium and the glands effaced, or the healing is incomplete, the gland cells remaining in the deeper parts of the former glands.

During the healing process there may be seen in the advancing squamous epithelial border numerous mitotic figures. This border moves forward, replacing the columnar cells, sometimes arching over, the columnar cells disappearing underneath, or by shoving under and lifting the columnar up, giving the picture of columnar epithelium resting upon squamous. When the squamous epithelium reaches a gland it may dip down into the gland, replacing the columnar cells completely, or it may only replace them in part. Again, the squamous cells may not descend into the gland at all, but growing over the mouth occlude it completely or leave an opening through which the contents may escape. It is the occlusion of the gland mouths by squamous epithelium and the consequent distention that gives rise to many of the so-called Nabothian follicles.

Through acute exacerbation of the causes leading to erosion, and through ir-

ritation, the cervical epithelium may undergo further proliferative changes. The squamous epithelium is thickened, the papillæ lengthened and the masses of cells filling the former gland increased. The simple columnar epithelium may change to stratified and the glandular invaginations become deeper. In these cases we note irregularity in the size and shape of the cells, and their nuclei are larger and hyperchromatic. This is usually spoken of as atypical proliferation and is suggestive of malignancy.

In beginning malignancy we have the above picture of atypical proliferation exaggerated. The masses of epithelial cells extend deeper into the underlying tissues, breaking through the yellow elastic layer, and show strands and fibres of it among the invading cells. As the process advances there is usually some evidence of cornification as shown by the beginning formation of epithelial pearls. There is more or less small cell infiltration along the advancing border and capillary changes, showing reaction on the part of the normal tissue to the invading cells. The diagnosis of malignancy at this time is usually plain.

Looking at the sequelæ of laceration from another point of view, we find that carcinoma of the cervix is far more frequent in multipara than in nullipara, while carcinoma of the body of the uterus is of about equal frequency in both. And among multiparous women those with carcinoma of the cervix have had more children than those not affected, showing that labor predisposes to carcinoma. Now, the common result of labor is trauma and its most frequent effect upon the cervix is laceration. Thus we arrive at the same conclusion from another point of view.

CERTAIN FACTS IN REGARD TO THE INTERMEDIATE GROUP OF ORGANISMS.*

GUY L. CONNOR,
Detroit.

I regret that the paper I am about to present is not of a more practical nature. It does not pretend to touch on more than certain points. As you will see when I am through, there is nothing original in it. Nevertheless the literature on the subject is so scattered and the subject itself is of such recent origin that I thought that those who heard this paper might possibly be interested in it.

There is a group of organisms which for convenience sake and for other good reasons are called by some the "Intermediates." They resemble the *Bacillus Typhosus* in certain respects and the *Bacillus Coli Communis* in others.

It was not until the Gruber-Widal reaction was applied, that the various members of this group could be separated much if any.

1888—Gärtner discovered that the *Bacillus Enteritidis* was associated with epidemic meat poisoning.

1892—Nocard's work on the *Bacillus Psittacosis* appeared.

1893—Gilbert introduced the terms *Paracolon* and *Paratyphoid*.

1896—Achard and Bensaude were the first to apply the term *Paratyphoid* in a clinical sense.

Not, however, until 1901, after Schottmüller reported several cases did the term *Paratyphoid* acquire a very general use.

The intermediate group embraces the following organisms:

1. *Bacillus Enteritidis* of Gärtner.

*Read before Detroit Academy of Medicine, Sept. 8, 1903.

2. *Bacillus Psittacosis* of Nocard.
3. Gas producing "Typhoid" of various observers.
4. *Bacillus Cholerae Suis*.
5. *Bacillus Typhi Muriuc*.
6. *Bacillus Icteroides* of Sanarelli.
7. *Bacillus Calf Septicemia* of Thomassen.
8. *Bacillus Paracolon*.
9. *Bacillus Paratyphoid*.

This group can be distinguished from *bacilli coli communis* and *bacilli typhosus* without much difficulty.

INTERMEDIATES.

Gas in glucose.
No gas in lactose.
No gas in saccharose.
Coagulates milk—No.
Indol—No.

TYPHOID.

No gas in glucose.
No gas in lactose.
No gas in saccharose.
Coagulates milk—No.
Indol—No.

COLI COMMUNIS.

Gas in glucose.
Gas in lactose.
Gas in saccharose.
Coagulates milk—Yes.
Indol—Yes.

In this country the two most frequently found organisms of the above group are the *bacillus paratyphoid* and *bacillus paracolon*. The main differential points are the following:

Paracolon Bacillus	<div> <div></div> <div>Milk, alkaline, after initial acidity, terminal alkalinity in 1 to 2 weeks.</div> <div>Gas formed freely in glucose.</div> </div>
Paratyphoid Bacillus	<div> <div></div> <div>Milk, initial acidity, little or no subsequent alkalinity.</div> <div>Gas production is much less than in the above.</div> </div>

Paracolon Bacilli—Turns neutral red agar yellow in 24-48 hours and the culture remains yellow.

Paratyphoid Bacilli—Also turns neutral red agar yellow in 24-48 hours but it does not remain so. After 4-5 days it becomes red again. This redness

starts at the top of the tube and extends downward. The redness is complete in 2-3 weeks.

The paracolons constitute several distinct species while the paratyphoids constitute one distinct species. All the paratyphoids give typhoid states in man, but only a certain few of the paracolons produce typhoidal symptoms in the human being.

The agglutinative tests have taught us that the paracolon group is made up of several distinct species because they all do not show mutual reactions. The paratyphoids, on the other hand, interact without exception.

Dr. Warren Coleman, Professor of Medicine in Cornell University Medical School, gives us a very interesting classification for the several distinct forms of disease caused by the "Intermediates."

I. Epidemic meat-poisoning type—

Etiology—

(a) *Bacillus botulinus* (Von Ermingham). This organism is a saprophite. The infection of the meat takes place after the animal is killed. The meat itself is off color, has a bad odor and one can readily tell it is unfit to eat.

(b) *Bacillus enteritidis* (Gärtner). Dr. Buxton puts this with paracolons. The animal is diseased before death. There is nothing in the sight or the taste of the meat which will tell one that the animal had this disease. Cooking the meat will not always kill this organism, as the temperature

in the center of the meat may not be sufficiently high.

Transmission to man—

1. Eating infected meat (commonest).
2. Man to man.

Forms—

1. Gastro-enteric type (common form).

Vomiting.

Gripping abdominal pain.

Purging.

Fever 100-101.

Duration—

Mild—1-5 days.

Severe—months.

2. Typhoidal type—

Very difficult to distinguish clinically from bacillus typhosus infection.

3. Choleraic type—

Vomiting.

Diarrhoea.

Rice-water stools.

Muscular cramps.

Sub-normal temperature.

II. Psittacosis type—

Originally an infectious disease of parrots.

Durham believes bac. psittacosis is a variety of Gärtner's organism.

Modes of infection—

1. Direct from parrots.
2. From inanimate things, as cages, etc.
3. Man to man.

Period of invasion, 5-7 days.

Stationary period—Beginning with sudden rise and terminating with sudden fall of fever.

Convalescence is apt to be prolonged.

Mortality in man is 28-37%.

Bronchial complications are common and dangerous.

Diagnosis—

From Typhoid Fever	{ Abrupt rise and fall of fever, Intensity of respiratory trouble, Absence of eruption, all favor Psittacosis disease.
From LaGrippe	{ Extremely difficult, Source of infection may help one.

III. Typhoid type—

Dr. Coleman thinks it would be better to broaden the scope of etiology of typhoid fever to include the following organisms—

- (a) *Bacillus alcaligenes* of Petruschky.
- (b) *Bacillus typhosus*.
- (c) *Bacillus paratyphoid*.
- (d) *Bacillus paracolon* (certain members which have been called by some beta paratyphoids).

I would now like to say a few words concerning paratyphoid and paracolon infections.

Etiology—

Paracolon *Bacillus* and Paratyphoid *Bacillus*.

Geographic location counts nothing in this class of cases, as they have a very general distribution. Cases have been reported on the continent, in this country, in the islands of the Pacific, etc.

Age—Among the cases reported the youngest patient who had paratyphoid or paracolon fever was a baby of 7 months; the oldest a man of 60 years. The majority are in young adults.

Morbid Anatomy—

There are on record three deaths with autopsies. The only ulcer found in the intestines of any of these three cases was one in the ileum. Whether it was an ulcerated follicle the account didn't say. In the other two cases the solitary follicles and Peyers' patches showed no lesions. In Strong's case there was a moderate catarrh of the intestines and a few superficial hemorrhages in the large and small bowel. The mesenteric lymphatics and some smaller lymphatics along small intestine were hemorrhagic. The spleen was enlarged in all three cases. The other pathological changes which were found were those which occur in any febrile condition.

Symptoms—

These are practically the same as those found in genuine typhoid fever.

Complications—

Intestinal hemorrhage.
 Furunculosis.
 Initial broncho-pneumonia.
 Venous thrombosis.

Relapses—

These occurred in several cases.

Duration—

12-84 days.
 Average, 20-36 days.

Diagnosis of Paratyphoid Fever—

1. Absence of Widal (not less than 1-40),
 plus
2. Positive reaction against a known paratyphoid bacillus,
 or
 Recovery of a paratyphoid organism from the blood, urine, stools or complicating inflammatory process.

It must be remembered that you can have a mixed infection of typhoid and paratyphoid. Some think that many of these second attacks of typhoid have been in reality paratyphoid.

The fact that the blood of a paratyphoid patient will agglutinate in proper dilutions all varieties of paratyphoid bacilli while the blood taken from a patient ill with paracolon fever will agglutinate none of the paratyphoid organisms and only a certain few of the paracolon bacilli is of importance and interest clinically.

Conclusions—

1. Clinically the picture of typhoid and paratyphoid is about the same. Diarrhoea and termination by crisis is said to be more frequent in paratyphoid than in typhoid.
2. A case is not necessarily paratyphoid just because it does not give the Widal.
3. The disease is usually mild, notwithstanding conclusion 4.
4. Up to February, 1903, there were 84 cases reported with 3 deaths.
5. Absence of intestinal ulceration in two of the autopsy cases and the presence of but one ulcer of the intestine in the third case is of interest.
6. Lastly, this disease seems to be a general infection with no especial localization.

PATHOLOGY OF CYCLICAL ALBUMINURIA—Klebs demonstrated many years ago that post-scarlatinal nephritis had its beginning in the Malpighian glomerules—was in the first instance a glomerulitis.

This discovery was taken up and extended by other pathologists until it became established that every nephritis had its origin in the glomerular system. It is possible for this initial lesion of an acute nephritis to take place and proceed no further, the tubular epithelium and connective tissue stroma escaping involvement. The cases cited by Dr. Elliott in this article, seem to demonstrate clearly this localized glomerulitis. This fact accepted, the subsequent cyclical albuminuria becomes merely evidence of a defective glomerular condition, a few leaky glomerules, as yet imperfectly repaired, permitting under the high intraglomerular blood-pressure of the upright position the passage of albumin into the urine. If these views are correct, every cyclical albuminuria must be looked upon as simply a phase of mild degree of a true nephritis, which has preceded it.

This substitutes an organic for a functional explanation of the phenomenon, and views every case as being directly or remotely associated with a genuine nephritis, often latent, localized, and escaping detection, but invariably present. This view does not necessarily imply a serious prognosis. The disease is not active and progressive, but naturally tends to resolution. Under suitable conditions of diet and hygiene the symptom will in the majority of cases eventually disappear. Tessier and Merley were able to follow 28 cases during periods varying from 9 to 13 years. Four of the 28 cases developed Bright's disease, a percentage of 14.28. The possibility of this outcome must be kept in mind in treatment and prognosis. (*Medical Record*, Dec. 12, 1903, by A. R. Elliott, M. D.)

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Editorial

CONCERNING THE RELATION OF THE BRANCHES TO THE JOURNAL.

THE JOURNAL is owned by the combined Branches. Delegates of the latter elected the Council and directed it to establish and conduct THE JOURNAL for the common good. The Council appointed an editor and gave him the needful power. This work is diversified in character and scope, limited only by the possibility of advancing the interest of the Branches, as units or collectively. THE JOURNAL thus has as stockholders every member of each Branch—it is thus owned, and conducted in the interest of the Michigan profession. As the stockholder is directly concerned in the prosperity of his firm, so are members of each Branch in the STATE MEDICAL JOURNAL. It is desired that the sense of responsibility may prompt increasing activity in promoting the prosperity of THE JOURNAL—not spasmodically, but constantly—not in one direction only, but in all possible directions.

As is well known, the character of the articles in successive issues, does much to establish the standing of THE JOURNAL. If these be scholarly, thoughtful presentations of subjects helpful to the profession, the standing of THE JOURNAL is elevated; per contra, if they be careless in diction, illogical in thinking, and the expression

of mythical observations and vicious practice, THE JOURNAL suffers damage. It follows that work by any member in stimulating the preparation of the best possible papers, either for Branch or State Society meetings, directly strengthens THE JOURNAL foundation. There is no member but by proper thought might not thus help THE JOURNAL.

Then all over the State are students, whose work could be secured for THE JOURNAL if the proper person interested himself in the task. Further, others might be induced to undertake important studies for the purpose of making THE JOURNAL more valuable, and themselves rising in the esteem of its readers.

It is hoped that every Branch selects its officers with a single eye to their fitness for marshalling every doctor in the county in active, persistent work, in and out of regular meetings. Official position affords opportunities to press work upon all able to perform it—to the end that superior papers, valuable discussions are regularly sent THE JOURNAL. As there are nearly sixty Branch Societies it is desirable that condensation be carried to the limit of clearness and force—a word too many is quite as harmful as a word too little.

All can help THE JOURNAL by correcting proof sent them as soon as received and returning the same to the editor at once. Only thus can the largest profit to all be secured.

Different portions of Michigan present varied problems—members can aid THE JOURNAL in either making thorough study of these and forwarding results to the editor, or interesting others to do the same.

The management asks the aid of each stockholder, in making THE JOURNAL of

the highest possible value to each, and the profession in general.

OUR NEW DEPARTMENT.

Like other editors of the various State Society journals, we have lacked space to present much that would have been of interest to the progressive man in medicine. Careful thought has been given to find a way out of the difficulty. As a result, we introduce, with this issue, a new department, styled, "The Progress of Medical Science." It will be the endeavor of its editors to present in a scientific manner what appears of interest to the modern medical man. They also will keep the profession,—as much as their limited space will allow,—in touch with the salient and profitable features of the medical work done in civilized countries. Fortunately, the editors have access not only to the leading American journals, but also to a certain selected number of English, German and French publications. If this meets with the sanction and the approval of our readers, we will feel repaid.

CATHETERIZATION OF THE URETERS IN THE FEMALE.

If the essential points in the technic of cystoscopy by means of the Kelly instrument, as given in the December number, be faithfully carried out, the operator will be able, after a little practice, to recognize the ureteral orifices and to catheterize the ureters if desirable.

For this purpose it is absolutely necessary for the patient to be in perfect position, and that the vagina be allowed to dilate, before the cystoscope is introduced. Otherwise the base of the bladder, to-

gether with the ureteral orifices, recedes from view, and catheterization becomes impossible.

General anesthesia is not necessary. The various steps in the technic as previously given, having been carried out, and the general examination of the bladder having been finished, the ureteral orifices are next sought for. The position of the vesical trigonum, i.e., the triangle formed by the two ureteral orifices and the internal urethral opening, must be constantly kept in mind, and allowance made for the foreshortening which takes place. As a guide to the orifices, the inter-ureteric fold is most convenient. This is a ridge of mucous membrane, slight, but in most bladders quite distinct, running transversely between the ureteral openings. It is found by withdrawing the cystoscope until the internal urethral orifice begins to close over its end, then inserting it about 1 cm. farther, and slightly depressing the handle. If this fold be now kept in view, and followed out to one side, until the barrel of the cystoscope and the median line form an angle of about 30 degrees, the orifice will usually come into the field. While there are marked variations in the position of the openings, this rule applies in a large percentage of cases.

The orifice is often located on a little fold of mucous membrane, more rarely hidden behind a fold of the mucosa. Generally the mucous membrane around the orifice is slightly injected, and often the blood vessels run in a radial manner toward it. The opening itself may stand out as a clear black slit in the bladder wall, or may be indistinct, as expressed by Kelly, appearing as a "water-mark." Often it is immediately located by seeing a few drops of urine spurt from it.

The equipment necessary for catheteri-

zation, in addition to the instruments already listed, are (1) ureteral searcher, (2) renal catheters, and (3) rubber mits.

The searcher is merely a probe with a bent handle. It should be delicately constructed and as light as possible, those made of aluminum being the best. It is used in demonstrating the opening when it is obscure, or when hidden behind a fold of mucous membrane.

The catheters, made of woven silk, should be 50 cm. long. For most work the "renal" catheter is to be preferred to the "ureteral," the opening being in the side and the end being more bulbous. These catheters come in three sizes, respectively, 1.5, 2, and 2.5 mm. in diameter. After having been thoroughly cleaned and soaked in a 1-2,000 sublimate solution, they are boiled for 2 or 3 minutes.

The rubber mits may be conveniently made by cutting the thumb, two fingers, and a portion of the back, in one piece, from discarded rubber gloves. They are also sterilized by boiling.

The desired ureteral orifice having been found, the assistant starts the catheter in the cystoscope, and slips a mit upon the disengaged hand of the operator, the latter not taking his eyes from the orifice. With the protected thumb and index finger, the catheter can be firmly grasped and the point engaged in the opening. As the catheter is gently pushed in, the assistant pulls out the wire stylet, the portion of the catheter passing through the cystoscope and bladder being always stiffened by the wire.

The patient then lies upon the side opposite to that catheterized, and the urine is collected in a test tube or conical glass. Having made sure that the bladder is empty at the beginning, the urine which

later collects therein, represents that of the side not catheterized.

If one desires to catheterize both kidneys, it should be done at one sitting. After the first catheter is in place, the cystoscope is removed, and a piece of adhesive plaster fastened to the catheter, in order to avoid any possibility of later confusion. A smaller cystoscope is then introduced through the urethra, beside the catheter, the remaining orifice found, and catheterized as before.

BENJAMIN R. SCHENCK.

NEWS ITEMS.

The Seventh General Conference of Michigan Health Officials will be held Jan. 7th and 8th in the new Medical Building at Ann Arbor. It is expected that every State and Local Health Board Official will contribute to the health interests of the State.

County Society News.

BARRY COUNTY.

The second annual meeting of the Barry County Medical Society was held in Hastings, Thursday, Dec. 3rd, 1903.

The election of officers resulted as follows: President, G. W. Lowry, Hastings; vice-president, Chas. Russell, Hastings; Secretary and treasurer, J. G. McGuffin, Hastings; third year term on board of censors, C. S. McIntyre, Woodland; delegate to Michigan State Medical Society, R. P. Comfort, Nashville.

J. M. Elliott, the retiring president, of Hickory Corners, gave an address on the benefits derived from medical organization.

Papers were read by the following gentlemen: Schuyler C. Graves, of Grand Rapids; J. J. Mercen, of Holland, and J. H. Reed, of Battle Creek.

J. G. MCGUFFIN, Sec'y.

BAY COUNTY.

In the year 1903 our society has had its annual meeting and ten other regular meetings, making eleven in all. The average at-

tendance has been thirteen. The number of members at present time is forty-four. The best of good feeling prevails among the members; and on the whole, I believe it would be difficult to discover a more united and harmonious society in the State. We only regret that a certain number are careless in their attendance. As near as I can ascertain there are thirty doctors in Bay County not members of Bay County Medical Society. Of these thirty, a probable half dozen will become members; some who might join, will not—say another half dozen to a dozen. Others there are who yet hesitate to agree to practice strictly non-sectarian medicine. In the year we have had valuable papers on the following subjects: "Catarrhal Deafness," by C. H. Baker, Bay City; "Management of Patients During Operation," by D. F. Stone, Bay City; "Hydrophobia," by C. T. Newkirk, Bay City; "Tetanus," I. E. Randall, West Bay City; "Infant Feeding," by F. E. Ruggles, Bay City; "Hernia," by V. L. Tupper, Bay City; "Auto-Intoxication," by Mary Williams, Bay City; symposium on "Venereal Diseases," by G. A. Williams, C. H. Baker, W. L. Bishop, of Bay City; J. W. Hauxhurst, of West Bay City; "Acute Rheumatism," by E. A. Wittwer, of Auburn. All of these papers, we consider, are of high and special merit, and the attending members deem themselves enriched by same and the free discussion which followed each. We have in our "Order of Business" one reading "Report of Prevailing Diseases." Under this head any member is free to give a full description of any interesting case he may have under his supervision. By this we have a report of many interesting cases at each meeting which we regard almost as educational and instructive as the paper of the evening. These reports often bring out discussions. Differences of opinion are good naturedly referred to and then forgotten. No contentions, strife or bickerings exist; and truly, then, it may be said we have a harmoniously organized body which meets every month for the free dissemination of much knowledge and free good will.

MORTON GALLAGHER, Sec'y.

CALHOUN COUNTY.

The annual meeting of the Calhoun County Medical Society (see Journal, December, County News) was held in the City Hall at Battle Creek, December 1, 1903. Present, thirty-nine members;

admitted eight new members, total forty-seven. This is the largest number in attendance at any meeting in the history of the Calhoun County Medical Society.

Dr. F. W. Robbins's (Detroit) paper on "Hemorrhage from the Bladder," and Dr. Angus McLean's (Detroit) paper on "Congenital Dislocation of Hip," and Dr. James H. Reed on "A Contribution to the Chemistry of Diabetes Mellitus, with Special Reference to Coma and its Treatment," were splendid efforts, eliciting lengthy discussions and requests that they be printed.

After the president's address the election of officers for the ensuing year took place, resulting as follows: President, J. C. Brown, Battle Creek; Vice-President, A. J. Abbott, Albion; Secretary-Treasurer, W. H. Haughey, Battle Creek. This closed the afternoon session.

In the evening the members and their ladies assembled in the dining parlors of the Battle Creek Sanitarium and there partook of a "health banquet," after which a fine program of toasts and responses was listened to with pleasure and profit to all.

W. H. HAUGHEY, Sec'y.

A CONTRIBUTION TO THE CHEMISTRY OF DIABETES MELLITUS, WITH SPECIAL REFERENCE TO COMA AND ITS TREATMENT.

JAMES H. REED, BATTLE CREEK.

I hope I may be pardoned at this time for intruding upon this society and the medical profession at large another paper upon the subject of "Diabetes." It, however, being my life study, (and I might add my hobby), I cannot refrain, first on account of its great importance, as well as the widespread prevalence of the disease and my cherished ambition of being able to fathom and present rational treatment, as well as a cure; and if not a cure, at least a relief which will appeal to the profession. In the limited time allowed me it is not my desire or my purpose to enter into the etiology of the disease or to mark out or define the line of treatment which I follow, as these have been fully covered in numerous papers read by me upon the subject. I shall therefore, without any further preliminaries, jump right into my subject and confine myself alone to diabetic coma, and make no reference whatever to the action of drugs in certain phenomena which present themselves in other kidney diseases with more or less severity and fatality, other than the loss of strength, vitality and vision, as well as the general wasting away which precedes death from diabetic coma.

What is the direct cause of death in diabetes? Acid intoxication and coma. There are certain signs which present themselves weeks, and even months, before coma is established, the presence of acetone and diacetic acid, and can be detected by a very careful examination of the urine. An examination should be made of specimens from several micturitions as well as from the total 24-hour output. Acetone will be the first to appear, followed by diacetic acid, and later on oxybutyric acid. Elliott has suggested, and the same has been demonstrated by me, that these conditions can be detected in the urine by adding a solution of ferric chloride, which produces a rich, wine-red color. In making this test I follow quite closely that eminent authority, Prof. Dr. J. Bergen Ogden, of New York, late Professor of Chemistry, Harvard University Medical School, and for the benefit of my colleagues I append his method as laid down in his "Clinical Examination of the Urine."

"Diacetic acid is a colorless liquid, which gives a characteristic Bordeaux-red color with a solution of ferric chloride. But this color with ferric chloride may be produced by the presence of other substances in the urine, such as salicylic acid, carbolic acid, antipyrin, thallin (Legal and Hammarsten); also acetic and formic acid, sulpho-(thio-)cyanates, and B-hydroxybutyric acid. Diacetic acid is distinguished from these substances by the fact that, if the urine be previously boiled, diacetic acid does not give the ferric chloride reaction, while the other substances continue to give the Bordeaux-red color as before; furthermore, that salicylic acid, carbolic acid, etc., are not extracted from the urine by ether, whereas diacetic acid is soluble in ether.

"As already mentioned, the presence of diacetic acid in the urine (diaceturia) is always pathologic, and should in general be considered a serious symptom. Diacetic acid is frequently found in the urine in diabetes mellitus, in fevers, and also idiopathically as a form of autointoxication (diacetemia). It is of common occurrence in the urine of children as a concomitant of fever (v. Jaksch), and is then generally devoid of serious importance; but in children or adults suffering from diabetes it is a symptom of grave import. Diaceturia is most common in the advanced stages of diabetes mellitus, and particularly in children and persons under the age of thirty. The occurrence of this symptom may be looked upon as a very probable forerunner of diabetic coma and rapid death. The author's experience has led him to make an unfavorable prognosis in all cases

of diabetes mellitus (under thirty years of age) in which the urine contains diacetic acid.

"The form of autointoxication of which diaceturia is the chief index, is usually rapidly fatal, being accompanied by such symptoms as vomiting, dyspnoea, jactitation, and coma, without evidence of any other pathologic process."

Great progress was made when it was discovered that diabetic coma was the result of a specific acid, and hence the world of medical research has been enlightened by Minkowski and Kulz, who made the discovery and succeeded in isolating oxybutyric acid from the urine of a diabetic having died in coma. To Magnus Levy we are indebted for the discovery that he was able to separate enough oxybutyric acid and its derivatives per kilo body weight sufficient to produce acid intoxication in a dog. Oxybutyric acid and its derivatives may be produced synthetically or from foods ingested, which latter is most likely to be the case; hence, scientists have been trying to discover the exact and direct cause of oxybutyric acid and its derivatives, and the question which is of most importance to the medical profession is what foods are most likely to produce this result.

Careful experiments with scientifically prepared foods in which first carbohydrates were used, and then a meat diet having shown that acid intoxication produced by an exclusive meat and fat diet disappeared at once when carbohydrates were eaten (*Boston Medical and Surgical Journal*). Attention was then given to proteids, and although von Noorden who claimed in his early investigations that proteids were the source of oxybutyric acid and its derivatives, has since changed his mind as will be seen in his third edition, and has accepted the views of Magnus Levy that proteids were not the source. There is no doubt, however, which has been clearly, clinically and chemically demonstrated that after you exclude carbohydrates and proteids the fats remain by exclusion the main source of acid intoxication. The all important point, then, which presents itself is, is this produced by animal or vegetable fats. Hagenburg claims a decrease in acetone following a bacon diet. Schwarz notes an increase of acetone from the use of butter. Both of these authorities are upheld by Grube in his investigations. Nevertheless, as olein and butyric acid are found to such extent in butter it is very natural to believe that oxybutyric acid intoxication is more apt to be produced from vegetable than animal fats. At the same time, however, we must not lose sight of the fact that this has never been positively traced to any special variety of fat. If such was the case it

would be an easy matter for us to treat the disease.

Accepting, then, as a fact that diabetics die in a state of coma superinduced by an intoxication of acetone, diacetic and, finally, oxybutyric acid, our first step should be to keep the patient from taking cold, avoiding all fatigue, putting him to bed and causing him to drink water freely with large doses of bicarbonate of soda, with colonic flushings and laxatives; then if coma appears stimulants should be administered. I have used glycothymoline as an alkaline for flushing with a great deal of satisfaction, and would recommend as a *denier resort*, whiskey as a stimulant to be used, never resorting to brandies or wines, and the whiskey should not be given except by direction of the attending physician. Abilena water, which is, by the way, the only natural cathartic water in the United States, is to my mind the best laxative which can possibly be used, as it serves two purposes at one time, giving the patient the benefit of a stomach flushing, and the bowels an active cathartic.

I have recently made experiments with oxybutyric acid from the kidney of a patient who died in Chicago in diabetic coma. The kidney was infiltrated slightly with oxybutyric acid which was reduced to a solution and treated with a 2%, 4% and 6% solution of formaldehyde. I found that the acid was entirely destroyed by the use of the 6% solution, therefore I suggest prophylaxis as of the greatest importance, and when the presence of acetone is discovered to give the patient a urinary bactericide containing formaldehyde, and in my practice have used urystamine which is of the ammonium methaldehyd lithium series, with which, in approaching coma, as an adjunct with other treatment I have succeeded in arresting coma, and patients have continued to improve after passing through this ordeal.

Another very important remedy which I have used with considerable success is urispetin, which is a solution of lithium methaminat, in conjunction with corn silk and couch grass. The absence of ammonia in this preparation makes it of vital importance in the treatment of certain special forms of diabetes, for instance, cerebro diabetes. In order that I may not be misunderstood, please let me return to where I have suggested prophylaxis as of the greatest importance, and for fear that my meaning may be vague in this term of preventive medicine, I will say that I do not wish to be misunderstood as giving these remedies until the patient shall be under the influence of 2%, 4% or 6% of formaldehyde. As this would be not only out of the question, but

utterly impossible, therefore as all diabetics pass through a progressive siege until they finally die in coma, unless some fatal accident should occur to stop the ordinary trend of the disease, therefore I suggest these remedies as a prophylaxis in order to prevent the formation of acetone, diacetic and oxybutyric acid. There are other conditions beside these which indicate a urinary bactericide, such as the presence of pus, mucous, gonococci, and where the patient has been allowed to follow his own taste in the manner of food, and who on account of an abnormal appetite for sugars and starches lives chiefly or largely on carbohydrates, and is also addicted to large quantities of malt liquors, and those who have been restricted exclusively to a meat diet. In either of these two last named cases, or the existing previous named condition, a urinary bactericide is indicated.

Acetone and diacetic acid are always present in the urine of all advanced cases of diabetes, and their presence is not only alarming, but also of the utmost importance. The reaction by the ferric chloride test may be ascertained on examination of the urine for weeks and months before approaching coma, yet at the same time they positively indicate the approach of this much dreaded condition. It has been my good fortune in a few cases to notice that both acetone and diacetic acid have disappeared from the urine as the patient improved under rigid dietary and medicinal treatment. It is my opinion that neither acetone nor diacetic acid is found in the cases of transitory glycosuria. Generally preceding coma from three to five days the patient will complain of chilly sensations creeping up and down the back, as well as chilly sensations in other portions of the body. The skin, different from the usual dryness of the diabetic, will be covered with small reddish spots with extreme harshness and dryness, high fever and languor, therefore it is necessary to follow the line of treatment herein described, which will to a great extent reduce the quantity of the urine secretion and urge the functions of the skin by profuse diaphoresis, and in this connection I often use subcutaneous injections of pilocarpine and the administration of antipyrin, which will in a considerable degree lessen the quantity of urine and superinduce sweat.

I also resort to a rectal medication of bicarbonate of soda and opium, although I am bitterly opposed to the use of opium in any form internally. If the extremities become cold mustard plasters should be bound to the soles of the feet and the limbs rubbed thoroughly with dry mustard. Bicarbonate of soda should be administered

hypodermically at frequent intervals, whereas normal saline solutions, bicarbonate of soda and glyco-thymoline should be given per rectum. The bicarbonate of soda when hypodermically administered should be injected into the venous system or beneath the skin, and as draughts of water are absolutely necessary, I use Lincoln Spring water, of Saratoga Springs, New York, which is a saline water particularly adapted to diabetics.

I will at an early date furnish further investigations along this line, but at present will content myself and leave the subject with you, having covered the one point I intended in presenting this paper. I thank you very much for your attention, and sincerely hope that you will discuss my paper thoroughly.

HEMORRHAGE FROM THE BLADDER.

FREDERICK W. ROBBINS, DETROIT.

The incidents in life fix attention, stimulate mind, form opinion and clarify judgment. At this time it is not wise to discuss all the questions that arise in your minds in connection with the subject of urinary hemorrhage, but it may not be unprofitable to speak of some phases of the matter as they have from time to time been presented to me as the result of incidents or experience.

Hemorrhage from the bladder may have its origin in the bladder itself, or the normal bladder may be the receptacle for blood entering it from the upper urinary tract or from the prostatic urethra. From the prostatic urethra it may come as the result of traumatism, tubercular or malignant ulceration and acute congestion or inflammation. In the young, that is those not subjects of hypertrophy of the prostate gland, prostatic congestion or inflammation is usually secondary to gonorrhœal infection and the resulting hemorrhage is not sufficient to bring it within the scope of our paper, for the blood, a few drops, may be passed out, enter the urethra at the termination of the urinary act and not have been received into the bladder at all.

Ulcerations, inflammatory or tubercular, of the prostatic urethra may, however, be followed by severe hemorrhage into the bladder and unless one makes his diagnosis with the aid of the urethroscope, he is liable to mistake the origin of the blood. I have seen and cured ulcerations in this part of the urinary tract, but have not seen such a hemorrhage as just mentioned. One condition noted may be of interest in this connection, as it was to me while studying the cases of several men whose symptoms I attributed to inflammatory diseases of the *veru montanum*.

CASE 1. One of these men, Mr. E. G. L., had a history, several chapters of which were devoted to urethritis. He was extremely neurotic; was frequently wakened a dozen times at night with rigid painful erections which urination would partially relieve. His business was in jeopardy from loss of sleep. He had been operated on supra pubically, presumably as an exploratory measure. One surgeon had suggested perineal urethrotomy. I could see nothing in the bladder abnormal, but the *caput gallinaginis* was much larger than any I had seen, was sensitive to the touch and had a greyish instead of the soft velvety appearance which we learn to look upon as normal. I believed the thick greyish condition due to increase of fibrous tissue resulting from chronic inflammation. After due consideration, with a special scissors made for the purpose, I cut off a portion of the protruding *caput*. There was no immediate unpleasant symptom, but after five days the bladder filled with a large blood clot. This was evacuated while urinating after being thoroughly broken up with a steel sound, and the hemorrhage was checked by introducing and leaving in place a large sized catheter.

Hemorrhage in patients having an enlarged prostate frequently follows catheterization even though such operation be done with the greatest care. Such bleeding usually occurs from prostates markedly congested and the loss of blood would not, in itself, be an evil, but when the bladder is septic an injury to the prostatic mucous membrane from a catheter or stone may result in severe ulceration or prostatic abscess.

Malignant disease of the prostate in my experience is not a very rare affection, and as I recall to mind six cases of my own, and at least four in the practice of Dr. T. A. McGraw, within the last few months, in several of them hemorrhage was a prominent symptom, indeed I am inclined to believe that in the absence of bladder growth or stone, hemorrhage of a marked degree in cases where the prostate is enlarged to a considerable extent points to malignant disease and precludes any operation for radical cure.

Speaking of conditions in the bladder proper causing hemorrhage, five may be mentioned, namely: calculus, in which case the symptoms, methods of diagnosis and proper treatment are well known to all; hemorrhage caused by too rapidly emptying an over-distended bladder, acute cystitis, tubercular ulcerations and tumors.

Probably few of us have seen hemorrhage due to catheterizing an over-distended bladder and yet such severe hemorrhages have occurred that this possibility, when coupled with the knowledge that

such bladder is always congested and most liable to become infected, should always lead to the same action on our part that the certainty of hemorrhage would demand, namely: the introduction of a small catheter with full antiseptic precautions, allowing four ounces of urine to flow out, then replacing two ounces of this by injecting two ounces of boric acid solution, wait a few moments and repeat the procedure and then thus continue until the bladder is empty. The fact that the patient is relieved when the bladder tension is lessened will make haste unnecessary.

The acute form of cystitis resulting in bladder hemorrhage differs so much from that which may complicate tuberculosis or tumor, that it may be mentioned and dismissed.

Tuberculosis with hemorrhage is always accompanied by chronic cystitis, while tumors may be growing for years before infection intervenes, therefore, when occasional hemorrhage is noted and the urine be without pus cells, the question of diagnosis is of the greatest importance, and first an effort must be made to determine whether the trouble is in or above the bladder. No diagnosis should be attempted without first recording the history of the patient, the subjective and objective symptoms, the results of urinary and physical examination, the cystoscopic appearance of bladder and often the results of segregation.

CASE 2. In February, 1896, I saw Mrs. T., age 23, at the request of Dr. J. A. Winter. Her family and personal history was good. She was confined in February, 1895, and healthy until September, 1895, after which date she had had occasional attacks of hematuria, passing at times clots and at others pure blood. Later some pus was found in the urine. Cystoscopic examination showed summit of bladder red and capillaries somewhat congested. In region of trigonum near left ureter was a greyish floating mass held by a small pedicle. This was plainly seen at each of the two sittings. Bleeding did not cease and a week later I dilated the urethra and introducing finger felt several small papillomatous bodies not as large as they seemed seen through the cystoscope, their summits incrustated with phosphates; after thoroughly currenting with the finger nail all pain and bleeding at once ceased. She gained flesh steadily until I last saw her, May 23rd. Two years later Dr. Winter reported that he had confined her again and that she was perfectly well.

CASE 3. Papilloma of bladder. G. A. McB., age 67, consulted me May 1st, 1901. Had been in perfect health until May, 1900, when he had an attack of hematuria lasting for three days. Had no further attack until March 15th, 1901, and

again April 26th, 1901, lasting for three days. He complained of a dull pain over the bladder and had lost seven pounds in weight. Passes red blood at first part of urinary act. Rises once or twice at night to urinate. There is no residual urine. Lobes of prostate smooth and slightly enlarged. Thompson searcher shows bladder sensitive, urine turbid from pus. Cystoscope causes bleeding sufficient to render examination unsatisfactory. Small piece of growth withdrawing on cystoscope shows typical papillomatous formation. May 9th opened bladder supra pubically and removed tumor pedunculated from near left uterine opening one inch in diameter; carefully currentet base and cauterized with paquelin cautery. The rest of bladder surface was normal. Supra pubic drain perfectly carried off urine until removal on the 12th, after which time urethral catheter kept patient comfortable. Left hospital May 27th. December, 1901, he reports that in July, after operation, on one occasion he had passed a little blood. There remains a small amount of pus in urine. In September, 1902, reports that three times he has passed a clot the size of a pea at end of urination; a cystoscopic examination at this time shows a papillomatous growth or series of growths of considerable extent at the summit of the bladder, but now, November, 1903, there has been no hematuria, but he is beginning to have some distress in bladder which his physician writes he thinks due to the enlarged prostate, but which I am inclined to think is caused by the returning growth.

Sir Henry Thompson says that untreated papilloma of the bladder always leads to death, and while in his series of cases a considerable proportion have returned, a number have been permanently cured. It is interesting in this case to note that the removal of the original growth practically removed all hemorrhage but the recurring growth although shown by the cystoscope to be much larger than the original, has as yet developed no hematuria.

Another lesson to learn from this case is that tumors of the bladder often have as their only symptom hematuria, and that it is characteristic of them that long intervals may elapse in which there is no abnormal condition of the urine. And again, that the cystoscope should always be employed to aid in diagnosis whenever any serious condition of the bladder is suspected. I know that there are some conditions that will prevent a satisfactory cystoscopy and that tubercular condition should not be irritated, and yet so often has it been my pleasure to clear up obscure diag-

nosis with its aid, that I am constrained to believe that many in our profession neglect too long obtaining valuable information. I have known of operations having been done on the bladder which would never have been done had the cystoscopist been consulted. Have you not seen patients that might have been helped by operation had you known in time that symptoms present were due to a remediable disease?

When we come to consider hematuria of renal origin we enter upon the most interesting portion of our subject, so because of the difficulties of accurate diagnosis, which difficulties are now largely overcome, and because of the judgment required in the treatment of each individual case.

Several years ago I was called to make a cystoscopic examination for a physician who believed his patient to have severe bladder disease. The bladder was perfectly healthy, but from the right ureter there was flowing a tiny stream of blood, and with the attention called to the right kidney the doctor had no difficulty in palpating a nodular kidney which was undoubtedly sarcoma. This patient was a woman of about forty years of age, and although the kidney was removed, died later, I learned, from secondary growths.

Having mentioned sarcoma, let me report Case 4, Mr. I. W., age 72. I had treated him in 1894 for renal colic. In 1896 he had an attack of hematuria lasting for a few days only. In April, 1897, he entered the office one day saying that he had passed red urine in morning. That afternoon I found it normal; no albumen, casts or renal cells, and a week later the urine was reddish brown containing blood cells; the right kidney was at this time enlarged, hard and lobulated, reaching to crest of ilium. He has been growing weaker for some time. In July, 1901, four years since last report, the tumor was somewhat larger than in 1897; there had been occasional hemorrhage during this period but patient had regularly attended to his business, and died in April, 1902, of renal sarcoma. The left kidney was normal and some normal kidney tissue remained in the lower part of the right; but the main structure was displaced by a sarcomatous growth the size of a baby's head. Now I wish to submit these points: The colic pains noted in 1894, eight years before patient's death, were possibly due to blood clots caused by sarcomatous growth. Secondly, if I had removed the kidney when diagnosis was first made in 1896, in view of the fact that no secondary growths were discovered at death, I know of no reason why he should not have been living yet. He died at the age of 79, six years after the tumor was first discovered.

At that time his age was 72 and he decided to take his chances without operation. I leave it with you whether or not he increased his expectancy thereby. It is interesting to note that this sarcoma did not kill its victim for more than six and probably more than eight years after its inception, while the books give the limit of life as not far from three years.

Tumors of the kidney, whether malignant or benign, are accompanied with little or no pain unless the ureter becomes temporarily choked with blood clot, and always this possibility must be kept in mind when intermittent painless hematuria is noted coming from the kidney.

Tuberculosis of the kidney, as of the bladder, is apt to be accompanied with a pyelitis and may or may not be one manifestation of a general tuberculosis. Many doctors have been inclined to look upon a chronic pyelitis as tuberculous even if many examinations of the urine are made and no tubercle bacilli found. It has seemed to me that patient observations will usually be rewarded in doubtful cases by the discovery of the bacillus if tuberculosis be found, but if not and both pyelitis and hematuria are present, inoculation tests should be made. If the pyelitis is secondary to a cystitis, no tubercular nodules being discovered in the epididymis, testes, prostate or seminal vesicles, the kidney trouble is probably not tubercular. If urine from the upper urinary tract contains tubercle bacilli it is of great importance to determine whether the disease has attacked one or both kidneys. This can be done by catheterizing the ureters, a difficult matter to one not specially trained, or by the Harris' segregator. There are occasional difficulties in using the segregator, but I am convinced of its usefulness. If it be found that one kidney be tubercular and the urine from the other free from disease, the diseased kidney should be removed and with it the ureter if that be nodular. Usually these cases do not come to the surgeon until the kidney is plainly palpable, but the diagnosis should, if possible, be made before this late period. If both kidneys be diseased, surgical treatment is unwise, but attention given to general conditions will in many cases much prolong life.

At the meeting of the State Society in 1897 I reported three cases of hematuria. One of these patients, Case 5, Mr. F. C. P., traced his attacks of hematuria back to 1884 following an attack of malarial fever. When I first saw him in February, 1897, he had been losing blood for three weeks continuously. Pulse, 116; temperature, 98.6°; eyes, puffy; eye-lids, twitching; very nervous, not being able to sit still more than for a few

minutes at a time. Pain over kidneys; testes suppurating, nodular; tuberculosis in urine. Diagnosis, tuberculosis of urinary tract. The only operation done was to remove a tubercular testis. General treatment has been given at intervals since. Has occasional attacks of hematuria. Is not well, but gained probably thirty pounds of flesh since he first came under my care and is doing hard carpenter work continuously now nearly ten years after the beginning of his tubercular disease. I mention this case to show that tubercular conditions of the urinary tract, even if seemingly discouraging, are not hopeless even if the patient has not the means to go to Arizona or Mexico, and that in these cases surgery should be considered secondary to medical treatment.

CASE 6. Now I wish to report the case of Mr. A. J. W., age 52. Well until 1900, when noticed that the urine was turbid and a few days later bloody. Much of the following summer urine seemed normal. Went deer hunting in October for three weeks and soon after going, passed blood; never passed stone or gravel; urine contains blood cells to color urine, and pus cells; albumen sl.... The next day, December 19th, 1902, much blood in bladder, but after washing out bladder, no blood could be seen coming from either ureter, nor were stones, tumors or ulcers seen in bladder. Bladder mucosa was moderately congested in spots, kidneys were not palpable. His attacks of hematuria always followed severe exertion. January 17th, 1903, good X-ray picture negative; urine bloody; pain in back slight. Segregator shows much blood from left ureter and from the right normal urine. I had a letter from him November 19th, saying that he was much stronger, had been hunting and carrying in deer for three weeks, but still is subject to his hematuria.

CASE 7. Mrs. J. H. C., a woman of middle life, has been periodically passing considerable quantities of blood. Examined her July 15th, for Dr. McGraw, finding urine from left ureter discolored with blood cells while that from the right seemed clear but contained a few red cells. Urine received from this patient recently was normal. She has never had pain or tenderness over kidneys.

CASE 8. February 4th, 1896. Mrs. G. P., age 53. Married. Weight normal. General health good, with the exception of rheumatic pains and a torpid liver for the last two years. Status præsens: stools clay colored, conjunctiva yellow, urine brown, containing blood cells. At times blood is profuse, at others urine is clear. No pain, no blood clots; kidneys not palpable; cysto-

scope shows healthy bladder and blood coming from right ureter. Ergot and gallic acid were given with no effect. Then followed treatment by the salicylates, colchicum and sweet oil, followed by gradual improvement. March 24th there was blood in the urine, followed by several days of clear urine; then one passage of urine bloody and the next day clear. April 6th conjunctiva clear, reports feeling as well as ever. Still drinking large quantities of Geneva Lithia water. May 25th, perfectly well; urine normal. Passed from my care; and again seen November 20th, 1903; says that she with intervals of clear urine, has passed blood much of the time for last six years. Fingers and toes gouty. Has been in fairly good health, not lost flesh but is rather anæmic and at times has distress over kidneys. First diagnosis was rheumatic or gouty hematuria. Think it would have been wise to have continued general plan of first treatment and now if she does not soon recover should recommend exposing and making an examination of kidney and possibly doing Edebohl's operation.

These are interesting cases both from the standpoint of diagnosis and indications for treatment. The only one of the three which showed hematuria after exertion and pain over the kidney, therefore possibly due to stone in the kidney, was examined, a good picture taken and no shadow discovered. Pain on pressure over kidney or ureter, hematuria on exertion and crystalline debris in urine points to stone. Renal colic is not frequent except the ureter be occluded causing intra pelvic pressure, or the stone, gravel or crystals be moving along the ureter. If renal stones are suspected an X-ray photograph should always be taken, and if made by an expert it will be discovered if present. But if one not an expert attempts to find a stone he will plunge the surgeon into a greater cloud of darkness than was his before. Removal is the only treatment for stone. It must always be remembered that a few crystals of uric acid or calcine oxalate passing the ureter will be accompanied by a small amount of blood and most severe renal colic. This sum total of symptoms therefore should lead to the institution of a most thoroughly alkaline course of treatment before subjecting patient to X-ray or surgical treatment.

Hematuria not due to stone, tumor or tuberculosis, has as its cause congestion or inflammation. These conditions may be due to irritating drugs, malarial poison and a number of other conditions and then we must make our diagnosis largely by exclusion. Cabot mentions a case of hematuria from movable kidney. The patient, a

woman of 43, was anæmic, no abnormal conditions other than a loose right kidney was found. Placing in bed with elevated hips caused bleeding to cease and this returned on rising. If bolstered up in bed for 20 minutes a day, blood was noticed in urine. After operation fixing kidney, there was no more trouble. He thinks the congestion not due to twisting of pedicle but slipping down of the kidney whereby tension is applied to the vein, not permitting return circulation.

DeCosta, post mortem, did find a twisted pedicle accounting for hematuria in one case.

Granville McGowan reports a case of a man, age 35, with good general health, who had a profuse painless hematuria, eight years previous, which had ceased without treatment. Later this had returned with pain but the pain and frequent micturitions had subsided, although bleeding was continuous. Patient anæmic and weak, had lost 30 pounds, but there were no kidney symptoms. Cystoscope showed blood from right ureter and clots in the bladder. The consultant had no faith in the cystoscopic findings and demanded a supra pubic opening, which showed bladder normal. Operation on kidney did not show the expected papilloma in the pelvis of the kidney, but a congestion of entire kidney showing no pathological conditions with the microscope.

The previously-made examination of the urine will exclude or not chronic nephritis, which is not seldom the cause of hematuria.

In conclusion, it is necessary to first distinguish the hematurias of the prostatic urethra and those of renal origin from those of the bladder.

Hematuria from the bladder may be probably diagnosed by the appearance of the hematuric urine, by rectal examination of the prostate, by careful use of the searcher and the internal use of the cystoscope. The cystoscope and segregator in their proper sphere are absolutely necessary instruments in order to show not only the condition of the bladder, but the kidney from which the hemorrhage may come.

Renal hemorrhage may be present and the cause either plainly evident or practically certain as the result of careful and complete examination, or problematically certain, as a result of diagnosis by exclusion.

The treatment in the first two classes of cases is based on well settled authority and may be medical or surgical, palliative or radical. That of the latter class must depend on the best judgment of the surgeon and physician and may be brilliantly effective or negative in its results.

DISCUSSION.

A. W. Alvord—The paper was very interesting to me—not that I know so much about the subject with which Dr. Robbins ably deals, but that it is one which has covered some of the deficiencies in our medical education and medical practice. It has revealed to us the fact that many things which we were not capable of diagnosing in the past can now be discerned and proper assistance applied, whether it be medical or surgical. I was much pleased to note the doctor's criticism of the tendency toward surgery in the treatment of some of these cases. The cystoscope is a great assistant in the proper management of these diseases. I have used it quite a little and get much light by its aid. As for the segregator, I know but little concerning it.

A. J. Abbott—I would mention a case I saw operated upon by Dr. Harris, the inventor of the segregator, in which he was unable to find anything as a cause of the hemorrhage. He opened one of the kidneys and found nothing. He said that this was the sixth case where absolutely nothing was found, yet the hematuria was cured by the operation. I had a case of my own, a man 84 years old. I found a greatly distended bladder. By the use of the catheter I succeeded in getting away a considerable amount of the urine. The next day I found the bladder quite full of blood and in spite of every effort to get away the urine by the catheter my efforts were unavailing. I finally succeeded in getting away the urine. The next day the bladder was again full of blood. I called a consultation and decided to do a supra pubic operation; found the bladder walls thick, a granular mass all over the bladder. There was no history of much bleeding, and I did not feel safe in allowing the bladder to be closed, so put in supra pubic drainage. This was over six months ago, and the old man still lives.

Geo. C. Hafford—There is one point that Dr. Robbins calls attention to and asks us to give our experiences, and that is hemorrhage following the emptying of a distended bladder. Personally I have seen that take place but once and then not at all seriously. I have seen many cases where the bladder has been largely distended for a long time, cases where, following the teachings of books and instructions received while in college, you would certainly expect hematuria. After seeing so many cases, and never a case followed by hemorrhage into the bladder, I may be pardoned if I doubt the danger which might occur. In regard to emptying the bladder slowly in following the doctor's instructions for emptying a few

ounces at a time, and refilling with boric solution. though undoubtedly good advice it is rather impracticable at times, especially in a country practice, where we may be called many miles without knowing that we will meet this kind of a case.

DICKINSON-IRON COUNTIES.

The annual meeting of the Dickinson-Iron Counties Medical Society was held Dec. 15th, 1903, at St. George's Hospital, Iron Mountain. B. W. Jones, of Vulcan, was elected president; Wm. Veenboer, secretary and treasurer.

S. EDWIN CRUSE, Sec'y.

EMMET COUNTY.

The Emmet County Medical Society held its annual meeting on Dec. 2nd, 1903, at Petoskey. Members present: H. T. Calkins, G. W. Nihart, John Pedden, E. A. Runyan, L. W. Gardiner, J. J. Reycraft and G. E. Reycraft.

President—H. T. Calkins, Petoskey.

Minutes of last meeting read and approved. There being no papers the society proceeded to election of officers for 1904.

The following officers were elected:

President—H. T. Calkins, Petoskey.

Vice-President—E. A. Runyan, Harbor Springs.

Secretary—G. E. Reycraft, Petoskey.

Treasurer—G. W. Nihart, Petoskey.

Censor for 3 years—A. E. Stealy, Pellston.

G. E. REYCRRAFT,
Secretary.

GENESEE COUNTY.

SYPHILIS.*

F. H. Callow, Mt. Morris: Gave the history and a description of the disease, emphasizing the fact that in all its protean manifestations the effects of syphilis are the result of one and the same series of pathological causes, and it is the action of these pathological conditions upon the tissue or organ in which they are located that produces its different manifestations.

In speaking of hereditary syphilis, he said: is it not frequently the case that a patient, having been pronounced cured of the disease, will beget children who prove to be syphilitic, or if not actually syphilitic at least of such low

vitality as to be terribly handicapped in the struggle for existence, many of them yielding up their lives to the diseases incidental to childhood, others struggling along to maturity and handing down their debilitated constitutions to another generation?

The late Prof. Gross propounded the theory that inherited syphilis is the real source of most of the morbid action now afflicting mankind. If this be true, and no one can deny that there is much of truth in it, is there not some way by which the public conscience may be aroused and people be brought to understand that if syphilis in the acquired form is rarely fatal in the inherited it is a veritable "slaughter of the innocents," and one of the principal causes of the race suicide of which we hear so much at the present time? Can not something be done—perhaps by educating the people regarding the remote effects of venereal diseases in general—to protect them from the effects of this disease, which so relentlessly dogs the footsteps of mankind, and in which the sins of the fathers are literally "visited upon the children unto the third and fourth generation."

• H. R. NILES, Sec'y.

INGHAM COUNTY.

The annual meeting of Ingham County Medical Society was held Nov. 12, 1903, at the residence of J. F. Campbell, Lansing. Eighteen physicians were present. The following officers were elected:

President—H. A. Haze, Lansing.

Vice-President—J. F. Campbell, Lansing.

Sec.-Treas.—L. Anna Ballard, Lansing.

After an able address by the retiring president, S. H. Culver, a bountiful repast was served, followed by a program of toasts, with F. W. Shumway, of Williamston, as toastmaster.

BANQUET.

"Our Society"—Mrs. H. A. Haze, Lansing.

"The State Society"—C. B. Burr, Flint.

"The Pioneers"—W. W. Root, Mason.

Solo—"The Song that Reached my Heart" (Jordan)—Mrs. Mina Barnes.

"The Fads"—C. L. Barber, Lansing.

"The Ups and Downs of a Doctor's Life"—Mrs. F. A. Jones, Lansing.

"Our Honorary Members"—Dr. Campbell.

Music—"Elaine" (Bartlett)—Mrs. Barnes.

L. A. BALLARD, Sec'y.

*Abstract of paper read before Genesee County Medical Society, Nov. 7th, 1903.

PRESIDENT'S ANNUAL ADDRESS.

S. H. CULVER, MASON.

In a recent medical journal may be found an article upon "The Personal Equation in Medicine" aptly describing some of the difficulties that beset the practitioner of medicine.

"The practice of medicine is singular in that it almost necessarily isolates its devotee from his fellows, and peculiar in that it depends upon a kind of knowledge which is not common and bears no relation to the ordinary affairs of men. Neither are the causes of success or failure to be estimated by any general standard. The most trifling case of illness, even, presents so wide a divergence between the abstract entity involved in the perverted physiological process and the illness as a whole, conditioned by all that enters into the environment of the individual who is ill, that to estimate the one by the other is impossible; as it is futile to attempt to determine by the history of an illness in one case, exactly why another, apparently similar, has so different a course.

"More than in any other profession, the physician is separated from his fellow-workers. He has to meet the exigencies of ordinary practice alone, and often the most extraordinary difficulties have to be encountered without the aid of anyone. Again his relation to those he is called upon to treat is peculiar and difficult. Conscious of the absence of certainty in the methods of diagnosis and treatment of disease and the number of factors which, although their existence can seldom be definitely predicated, may enter into the etiology or modify the course of disease in any individual, yet he must always, for his patient's sake, and to retain the confidence of the family, appear absolutely certain of his ground; precise and sure of the wisdom of every step taken.

"There is before him all the time the knowledge of the different standpoint from which the layman, through the influence of superstition and credulity, looks upon medical practice; so that he cannot appeal to his patient's judgment to help him out, because the uncertainty on his part, born of a knowledge of the limitations of medicine, appears and is almost sure to be considered by his patient as evidence of ignorance and incompetence.

"He finally grows into a mental habit, more or less narrow, according to his original bent and the breadth of his training so that his judgment is practically uninfluenced by anything outside of the experiences which condition his own environment. His conclusions meet the test supplied by the exigencies of his practice. His pa-

tients get well as a rule, and when they do not he recognizes that after all, human intelligence is limited and disease is sometimes bound to be fatal.

"Then, too, if the physician has been successful to more than the ordinary degree, he is bound to become somewhat autocratic, to resent any questioning of his authority or difference of opinion, so that, while he may seek eagerly the enlightenment which comes from the written records of experience at a distance, he has little or no confidence in that of his fellows when they reach different conclusions from the same premises.

"He comes to wonder how such men ever attain any success in practice and while he pities those who are under the care of such poorly equipped physicians, he comforts himself with the knowledge that the tendency of all acute diseases is toward recovery. It is so easy for us to recognize the skilled physician in the man whose methods are the same as our own and so difficult to see any evidence of trained knowledge in those who differ from us."

Is the picture unreal? Is it not too true that the very habit of individual and independent thought, so necessary to the practical physician, is a powerful factor in the well-known lack of harmony in the ranks of the medical profession? And why, may I not ask, if such fact is to be admitted, should not such an unfortunate condition be changed for that which is better and more conducive to harmony and unity of purpose?

It is a belief founded upon a limited personal experience, we admit, that the fundamental cause for much of the lamentable inharmony in the ranks of medical co-laborers, is a neglect of the study, of the appreciation and the lack of application, of the fundamental principles embodied in the code of medical ethics.

Like unto the Mosaic laws on tablets of stone brought down from the Holy Mount to the Jews for their rule and guidance, so should the principles of the code operate as the law and guide among practitioners of medicine. Every departure from its beneficent teachings has been the cause of weakness and loss of influence.

There is no part of a physician's career of greater importance or one requiring more care than a fulfillment of the duties and obligations toward each other. To be able to forget and forgive the many injustices frequently perpetrated by members of the profession high and low upon their fellows, very often requires not a little sacrifice of one's personal feeling.

The last division of the code treats of the duties of the profession to the public and of the public to the profession and to these I especially desire to draw your attention. Section first declares that physicians shall ever be ready to give counsel to the public in matters pertaining to their profession.

"There is no principle of the code," said the lamented Frothingham, "more neglected than this and none whose neglect has caused greater injury to medical science."

"Until lately the medical profession has not been sufficiently active in exercising the influence it should upon legislative bodies, in the enacting of laws for its own protection; but there is a still greater responsibility in the education of the public in medical subjects. This is the true mission of the doctor, for the name implies it."

"Scientific medicine," again says he, "does not flourish among an ignorant and superstitious people, and we who deplore quackery should remember that ignorance upon medical subjects on the part of the people is the chief cause of its existence. It has been said that people like to be humbugged and such an excuse has been given for the prevalent patronage of quacks. This is a great mistake. People do not like to be humbugged and would not if they only knew the humbugs and how to avoid them. However bright we may paint the future, people like the ways of this wicked world too well to leave it prematurely and they are honest and sincere in their desire for benefit when they apply to a physician.

"Quacks thrive by promulgating error. Would not the truth disseminated pay a dividend as well? What farmer would expect a crop from a field unprepared? Weeds flourish in places where the husbandman most neglects the soil, so with scientific medicine, it can only flourish in fields prepared by proper education, while quackery will flourish where there is most neglect."

"With culpable indifference we have observed other professions, in order to extend their influence, making use of this important element of power. The members of the clerical profession have not trusted to supernatural power to extend the influence of the scriptures. How carefully have they manipulated public opinion to secure recognition of the importance of their own work and prevent the inculcation of anything to lessen their authority and control. From the primary school up through the college course they thus watch and guard the interest of their creeds.

"The politician never trusts to the uneducated public for his majority, but by his public speeches and by control of the press, moulds

public opinion to serve his ends. Is it to be wondered at that scientific medicine lacking this essential should suffer in consequence? Public instruction is in all things limited, but just as it is extended in any department of knowledge do we find people discarding error and accepting truth. Medicine is no exception to the rule and if the drudgery of practice will not permit the mass of physicians to become lecturers and teachers, men should be selected for the particular work."

These prophetic words may soon be fulfilled when, by the plan suggested at a Wayne County meeting, through the avenues of the press and by means of legitimate publications, the profession inaugurates a systematic plan for educating the general public in medical subjects. Through the columns of the daily and by means of proper medical articles, a general dissemination of medical truisms will reach the public and counteract the evil influences of the ads from the charlatan and irrepressible quack. Too long has the field been left unguarded to develop the fatal crops of deceit and chicanery which give support to the hordes of brazen rascals who parade themselves before an unsophisticated public in the guise of legitimate practitioners of medicine.

The attitude of the physician before the people is that of a public servant, and it may be fairly stated that the opinion prevails that physicians are obliged by law to answer all cases and render services whenever it is demanded of them. Through the assumption that such services are obligatory upon physicians great injustice is done them. The proposition that professional duty begets menial service contemplates contempt and robs them of the legitimate respect due them from the people.

Physicians should demand reasonable compensation for all services rendered, both public and private. In many foreign countries, free medical treatment is provided at the state's expense and is liberally paid for, not being gratuitous on the part of physicians. With us, medical charity has become a burden and a reproach to the profession on account of the abuses that are practised to the great injustice of the profession. Justice demands that the unfortunate poor shall be cared for by the state so that the burden shall fall equally on all its citizens. That physicians and surgeons should alone bear the burden of free medical service is unjust. We shall always, as in other vocations, have the never-pay class as a burden, but that thousands who are abundantly able to pay are treated free or with a meager charge is established beyond a doubt by daily observations.

The Detroit capitalist who appeared at a university clinic in the guise of a tramp and successfully acted his part, was given the benefit of a cataract extraction, free of charge. His smile was "large" when he disclosed his identity and explained how easy it was to make money.

A physician from the very beginning of his medical career is encouraged to practice medicine and surgery, not so much for the money he may gather as for humanity's sake, the honor due his profession and the love and devotion of his patients. Unfortunately the majority of medical men depend upon the income derived from their practice to pay the constantly increasing living expenses of to-day for themselves and families, and so they are forced, from necessity, to collect this money from their patients.

The moral and legal responsibilities are the same for the pauper and the millionaire and in many instances the attendance required by the former is the greater. The dreaded suit for malpractice may arise most unexpectedly and the savings of years be required to protect his honor and reputation at the bar of judicial equity when his whole skill and time has been freely given.

We fairly fall over ourselves in our efforts to get these cases at times. An Ingham County M. D. had a suit for ten thousand dollars instituted against him when the fee accepted by him for adjusting a fracture of the hip was twenty-five dollars.

But a bird in the hand is worth two in the bush, so it is all too common a practice to accept that which is proffered rather than the amount to which the physician is justly entitled. No one is more to blame for this than the physician himself as is evidenced by the following:

A few months ago an employee of one of the great railway systems of this state suffered a dislocation of the shoulder. It was reduced by the attending physician from a small town, who administered an anesthetic, made a report to the company of the case, including a diagram of the precise injury and with it his bill for the enormous sum of two dollars.

A physician's interest in the payment of his just claim is as essential as any other feature of his daily life and if he seeks some method to improve the present unfortunate state of affairs he cannot justly be blamed. The requirements of the law that, once accepting a case, the physician is bound to give it proper attention, should awaken him to the necessity of having the requisite foreknowledge that will enable him to distinguish between almsgiving and imposition. And to this end how better than through the County

Society is he to obtain this necessary protection. Each member of this society should have in his possession a "blue" book containing the names of the citizens in his community with whom any physician has had knowledge of unsatisfactory dealings. Each one would be glad to impart such information as a protection to his brother, knowing he would in time become the recipient of equally useful knowledge from him. At the same time the test might include the names of many unsuspected citizens whose property is on joint deed or in the wife's name for illegitimate purposes.

It will, of course, be said that a system of this character would smack of commercialism and suggest labor unionism. If true, then let it so remain, for he who waits in his office, these present days, to receive the well earned "honorarium" sips perfume from a faded flower. The County Society need not become a collection agency, but correct knowledge of the physician's duties, obligations and rights under the law can be supplied so that he will be properly protected.

The merciless and unjust actions of Boards of Supervisors who adversely decide the question of the contagiousness of certain diseases dangerous to public health, to avoid payment of legal claims, can be thwarted by concerted action upon the part of the profession.

For the reason that, last year, Dr. ——'s bill for services rendered smallpox cases in the Township of Alacádon of \$150 had been cut to \$75, was no excuse for performing a similar act in the treatment of bills returned this year from the Township of Leslie. That legally authorized attendance upon Circuit Courts to give expert testimony should be relegated to the level of ordinary witness fees is a crime against the profession which should be obliterated by the heel of a vigorous protest. The relations of medical witnesses in insane and probate cases should be adjusted by the concerted action of representatives of both the legal and medical fraternities. Courts, indeed, manifest much wisdom when requiring the combined affidavits of two qualified physicians before depriving a citizen of his legal rights by declaring him insane and subjecting him to commitment to an asylum. For assuming this responsibility which the law so kindly shifts to the doctor's shoulders and which carries with it oftentimes the loss of prestige in whole communities, to remain like a stigma of crime for years, the profession is entitled to the munificent fee of five dollars and a mileage fee of ten cents a mile for each mile travelled. And to whom can we better appeal to rectify these gross impositions

upon the profession than to the committee of legislation of the County Society?

This arraignment of the profession as a very indifferent chemical compound, weak in its own lack of harmony and cohesion, underfed and underpaid, would be intensely lacking were it not for that other virtue, more often portrayed from pulpit and platform, that the high and honorable profession of medicine is even more sacred than the ministry itself.

That this cynical and perhaps pessimistic view is to-day presented here is "not that I loved Cæsar less, but Rome more," and that by reason of it we may bring the necessity of concerted action more forcibly to the individual member.

As times have changed since "We lived under the King," we believe it is only by the united action of the great body of medical men that improved and modern means can be taken to give the conscientious and self-sacrificing physician the reward justly due him, a respectable living and in addition thereto, a sufficiency of this world's goods to protect him from distress and poverty in the helplessness of old age. Indeed, when he reaches the border of the unknown his hands must needs be full of deeds of charity, the golden keys that open the palace of Eternity.

KENT COUNTY.

The Kent County Medical Society held its annual meeting Dec. 8th, 1903. The officers elected for the ensuing year are:

Earl Bigham, president; H. W. Catlin, vice-president; S. L. Rozyna, treasurer; Francis J. Lee, secretary. Board of Directors—Wm. Fuller, R. H. Spencer, S. C. Graves and the president and secretary.

During the past year our Society has held twenty-two meetings; twenty-eight scientific papers have been read and fully discussed. Our meetings have been well attended and, last but not least, our one hundred members are all enthusiastic.

FRANCIS J. LEE, Sec'y.

LIVINGSTON COUNTY.

The Livingston County Medical Society met in Howell Dec. 15th, 1903.

After regular routine business an interesting paper was read by Angus McLean, Detroit, on "Surgical Treatment of Gall Stones," illustrating the different surgical conditions and treatment with charts. The paper brought out an interesting discussion.

The Society had for its guest Wm. T. Breakey, of Ann Arbor.

R. H. BAIRD, Sec'y.

MACOMB COUNTY.

ABORTION, ITS PRACTICE.*

A. A. PARISOT, MT. CLEMENS, MICH.

Whether it has been my lot during the first few years of my medical practice to be approached by a woman to relieve her of the contents of a pregnant uterus, or whether my personality led her to believe I was an "easy mark" I do not know, but I do know that such was my experience the first few years after I graduated in medicine, which to-day has prompted me to read a paper before the Macomb Medical Society, entitled "Abortion and its Practice."

First of all let me say that I consider and recognize the fact that the practice of medicine is one of the noblest and grandest sciences to which human talent can attain, providing we live up to its teachings and never violate its principles.

The science of medicine teaches man the art which directly promotes the welfare of human tissue and structure, in other words it guards one's very life; it sustains our failing strength; it preserves the acuteness of our ageing faculties; it supplies those restoratives to life that are conducive to good health from infancy to old age.

From the time of Hippocrates, the father of medicine, to this very day, the physician is looked upon as the most valued benefactor of mankind which he certainly is, and is held in higher esteem and deeper veneration than a member of almost any other profession; he is far superior to the mineralogist who familiarizes himself with metals taken from the very bowels of the earth, or the astronomer who measures distances and weighs the almost inconceivable bulks of the mighty orbs, or the chemist who analyzes the minutest atoms of matter; in fact nearly all other sciences are but minute side issues compared to that benefactor of mankind, viz. : the science of medicine, a science built on a base of solid principles, and so noble and grand in itself that it should be practiced and utilized for noble purposes only, by scrupulous and conscientious physicians who would never stoop to violate its principles, and always bear in mind the fifth commandment, "Thou shalt not kill."

This brings me face to face with my subject, the wilful destruction of a defenseless child in its

*Read before the Macomb County Medical Society, Oct. 29th, 1903.

mother's womb, by mechanical means or otherwise. The wilful act that renders the mother's womb uninhabitable by the existing foetus, thereby depriving the offspring of its natural and undeniable right to life, the moral and inalienable right which all men are in duty bound to respect, the wilful act which is a direct violation of the first principles of liberty, which declare that all men are born equal and have an equal right to life and existence, and that life cannot be taken unless one's own life is placed in jeopardy by an unjust aggressor or murderous assailant. The interpretation of the law is, reasonable doubt being removed, it is justifiable to resist an unjust assassin, even if the death of our unjust assailant should follow.

With all due respect to the honest conviction of those who oppose me, I frequently have heard several of my colleagues plead that a foetus is not endowed with life until the expiration of four months, or until after quickening has taken place. What folly! They force me to state that they certainly are several centuries behind the times. By basing my argument on logical grounds which I will substantiate by proof, I maintain that the embryo becomes animated with life the moment conception has taken place, for at once it gradually and steadily gains strength every day, manifesting all the vital phenomena of organic life, secreting its own fluids for its existence and maintenance, and in adult life frequently inheriting characteristics, color and stature of the paternal parent whom the offspring has never seen, or tracing back generations, it may be the exact duplicate of either one of the maternal or paternal ancestors. And this to my mind proves beyond all doubt that life begins at conception. Hence the argument that a foetus is not a separate and a distinct human being animated with life and entitled to as much respect, consideration and protection as an inoffensive adult because it is not viable, is inconsistent with common sense, good morals and sound philosophy. Therefore I contend that physicians are in duty bound to utilize their skill and influence to protect the unborn as fully as the innocent suckling babe at its mother's breast.

The low estimate that some physicians have placed on the importance of foetal life has been instrumental in leading the public to believe that life does not exist up to the time, or until its movements are distinctly felt by the mother, which in a great measure has caused wholesale foeticide to be practiced on pregnant women who place no value on the life of their offspring in utero, and have their progeny destroyed with impunity.

These are shocking facts but nevertheless, only too true. It is horrible to contemplate that such a state of affairs should exist in a Christian and civilized country like America, where the cloak of protection and liberty is placed around us all, making us all equal, with equal right to live.

It may appeal to some—what is to be done in a case where an organic defect exists? This brings to mind a case of my own. About five years ago I was hurriedly called to attend a case of obstetrics. I found to my surprise a little woman about twenty-six years of age, frail in appearance and not more than four and a half feet in height whose weight did not exceed eighty-five pounds. After carefully preparing my hands I hastily made a digital examination, and found my little patient in the first stage of labor, the os being dilated about the size of an American fifty-cent piece, with head presentation. I returned about two hours later, but was unable to detect any material progress, but found a deformed pelvis. I at once called in consultation my old friend, Dr. Folsom, who frequently aided me in obstetrics before and since that particular time, and we concluded it was best to deliver her as soon as possible. I administered the anesthetic while Dr. Folsom digitally dilated the os sufficiently to apply the forceps, which he was subsequently able to do. We both made traction; the child being very large we were unable to bring it into the world. Being unsuccessful in our attempt we concluded to make a pedalic presentation and deliver feet first. Under the circumstances the delivery was long and tedious, and the child in great danger of death. I was requested by the father to baptize the child while the head was still in utero, which I did. We were unable to resuscitate the little one, but had the satisfaction of giving it sixty-five per cent. of the doubt in its favor that it would live. We told the husband that owing to the existing deformity of his wife that if she again became pregnant her own life as well as that of the child would be placed in jeopardy,—as there is always some danger connected with the Cæsarian section. However, I may add that the operation is not as dangerous as appears on the face of it, and as we are led to believe. A Belgian physician performed the operation seven times on the same woman. In Philadelphia it was performed three times on the same woman. Dr. Bretonneau performed it six times on a woman and that woman his wife.

Returning to the little woman in question I will state that she subsequently became pregnant and gave birth to a child without the aid of a physician or lay person. About three years ago Dr. Folsom and I again delivered her of a pair

of premature twins. A year ago we did the same thing, and expect to deliver her of another pair in the near future, as she is again pregnant. The point I am trying to illustrate is that pregnancy is often more alarming in appearance than in reality. Is it not true that the most of us have been solicited by apparently well-to-do married women not only primipera but women who have gone through parturition many times, who have demanded the lives of their offspring on the grounds that they would be unable to give them care and attention? Have not most of us been told about expense, the pain of parturition and the like, or that the woman is sure she will die in labor? Have we not also been urged by her husband who does not place as much value on the life of his unseen, unloved offspring as he does on his domestic animals in or about his domicile? There may be monetary considerations too, that would swell our bank accounts very materially or she may have an organic defect, or in other words a rachitic pelvis, whereby we base our argument that the mother's life is placed in jeopardy and the child's life must be sacrificed. Can we do it? There can be but one answer. We cannot commit wilful murder by taking one life to save another. If we yield, where will we draw the line and when will it cease? Perhaps you professional brethren may be called to a case equally as deplorable as the previous one. As an illustration you are consulted by a married man who has been unfaithful to his most estimable wife, and who in a moment of lustful passion has seduced a young lady; she becomes pregnant. With this deplorable situation facing both families, will you again yield to satisfy sentiment and society? The only answer is positively, NO.

Taking human life can only be resorted to when an individual is an unjust aggressor, in warfare, or carrying out the penalty inflicted by the state. Some may argue that an embryo that jeopardizes its mother's life, or is a menace to society or family happiness is an unjust aggressor and that the mother has the right to protect her own life by sacrificing the life of her little, unborn babe, that her own may be spared, which to me appears to be a very lame argument. In the first place, can it be proven that the child is an unjust aggressor? It certainly has no intentional guilt. As a learned man of the day says, the mother is fully accountable for the unfortunate situation, the child having absolutely no say as to its existence; why not take the mother's life to save the child's? He also adds, He who wilfully puts a cause must be answer-

able for the effect of that cause. I maintain the child is not an aggressor because its acts are not directly willed. It has no intentional guilt whatever, and it is placed in the womb without its consent and is absolutely defenseless. Being the child's acts are not willed, no intentional guilt being intended, not being responsible for its acts and existence, and nature protecting and maintaining its life in the only place where it can live, how can any one adjudge it as a murderous criminal with no one to speak a word in its behalf, whose guilt is judged so great that it must forfeit its own life to satisfy an unnatural, whimsical mother or cover guilt in society? Since the child is not responsible for its existence and acts, the plea of self-defense is anything but a sound, logical argument; an argument that must cause the blush of shame to creep over the countenances of conscientious physicians who see the noble principles of the science of medicine violated by unscrupulous men whose vile principles must sooner or later reflect on our noble profession that has withstood the test of time for over two thousand years. When will this degrading work cease? In answer will say, not until the physicians rebel and shun those men who pose as judge, jury and executioner of innocent babes and who measure life by sentiment and dollars and cents, with no moral law to observe or respect. If life is measured by dollars and cents and they prove that a moral law does not exist, I must admit they are right, otherwise I still contend and maintain that I am right.

In order to illustrate my argument we will suppose that no moral law exists. But what about the natural law? Has it no say whatever? If that is the prevailing impression with the lay person and abortionist as well, it is certainly erroneous. If you violate the law of nature it positively will sooner or later hold us accountable for that violation. How many of us have seen a mother for months or even years after she aborted, pine away and die with a malignant trouble which really originated when she violated the law of nature, or a chronic metritis or endometritis develop in her rendering her sterile and unable to beget children, and living in pain and misery until her constitution became undermined to such an extent that she being no longer able to repel the tubercular germs or germs of other diseases equally as fatal, yielded her life to pay the penalty of an outraged law; or have we not seen her taken to the operating room where the surgeon's knife was used as the only means of relieving the hoarded pus in her Fallopian tubes or elsewhere, and frequently forfeiting her life for an unpardonable crime committed against her offspring,

possibly leaving a family of motherless children to mourn her demise. The moral and natural law both claim their just share of respect and are determined that their mandates shall be observed. Those who stop and reflect for a moment will perceive at once we cannot resort to evil means and expect a happy result. We must bear in mind at all times, and bear in mind well, that it is one of the first principles of moral law, that evil can never be directly done and good result from it. Now, if the killing of an innocent babe to save its mother's life is not directly doing an evil that good may result, then I will concede that my position is wrong; but if it is, and I hold that it is, then my position is right and will receive the support of every man who upholds the moral law.

The burning question that is staring the medical profession in the face today is this, how can the practice of abortion be eradicated. I can see three methods, combined into one, and I urge its adoption with all the force I can master and command.

1st. That the physician give the unborn babe more consideration and place a higher value on its life.

2nd. That the physician work hand in hand with the clergy, and that they use their combined efforts and influence to suppress the evil.

3rd. That the physician lend aid to enforce the law and bring the guilty to justice.

If these principles are faithfully adhered to and carried out good results must surely materialize, and the high standard of our noble profession will once more be safely planted where the practice of abortion and charlatanism will crumble and sink in oblivion before it.

MARQUETTE COUNTY.

The second annual meeting of the Society was held in Marquette on Tuesday evening, Dec. 8th, 1903. The following officers were elected: H. W. Sheldon, Negaunee, president; J. G. Bartlett, Ishpeming, vice-president; H. J. Hornbogen, secretary-treasurer; J. H. Andrus, retiring president, to act as one of the directors, J. Hudson's term expiring.

A. W. Hornbogen reported three cases of gangrenous appendicitis. The discussion of this paper was postponed until the next meeting to be held at Ishpeming on the second Tuesday in January.

The Society has a membership of 34 out of a total number of 43 physicians in Marquette and Alger counties. By permission of the councilor, Dr. Moll, of Houghton county,

and Dr. McHugh, of Ontonagon county, were made members of this Society.

H. J. HORNBOGEN, Sec'y.

MONTCALM COUNTY.

The Montcalm County Medical Society will hold its first quarterly meeting of 1904 at Edmore, January 7th.

PROGRAM.

Call to order.

Reading of the minutes.

Reception of members and general business. Clinic.

Paper—Differential Diagnosis of Typhoid Fever; F. R. Blanchard. Discussion—Geo. L. Bond.

Syphilis (a symposium)—Etiology and Diagnosis, L. S. Griswold; Pathology of, A. P. Culbertson; Prognosis and Treatment, N. E. Bachman.

Paper—Carcinoma of the Breast, Richard R. Smith, Grand Rapids. Discussion—General.

Paper—Cystitis, S. M. Gleason. Discussion—J. W. Kirtland.

Paper—Neuralgia, J. T. Joslin; Discussion—Josiah Black.

Surgical Cases, A. W. Nichols. Discussion—General.

Remarks by W. T. Dodge, Councilor Eleventh District.

H. L. BOWER, Secretary.

TUSCOLA CO.

The annual meeting of the Tuscola County Medical Society will be held in I. O. F. Hall at Vassar, Mich., Jan. 11th, 1904, at 2:00 P. M.

PROGRAM.

Business meeting.

Report of Officers and Delegates.

Address of President, A. L. Seeley.

Address of Councilor, S. I. Small.

Election of Officers.

PAPERS.

"The Physician's Duty to Pregnant Women"—Geo. Bates.

"The Conduct of Normal Labor"—A. J. Howell.

"The Care of Puerperal Women"—C. W. Clark.

Mrs. F. D. LeValley will entertain the doctor's wives in the afternoon.

NOTICE.—Annual dues must be paid by all at, or before, this meeting.

W. C. GARVIN, Sec'y.

WASHTENAW COUNTY.

THE PROPHYLAXIS OF VENEREAL DISEASES.*

JAMES F. BREAKEY, ANN ARBOR.

At the last meeting of the Michigan State Medical Society a committee of three was appointed to secure data regarding the prevalence of venereal diseases in Michigan, with such other information as might be of value in limiting the spread of such diseases.

In order to make a beginning in this work the committee inserted a blank report in the August number of *The State Journal*, requesting members to fill out the same. They also asked the secretary of each county society to secure a paper bearing on this subject for presentation at the first county meeting in the fall. This latter request is made with the hope that general interest in the subject may be stimulated sufficiently to secure to the committee material co-operation on the part of the profession at large.

As an example of the present active interest taken in these matters by physicians and the degree to which voluntary reports are made, I may say that to my knowledge but one such report as was requested has been received from the membership of this society. It is true that voluntary reports upon any subject are difficult to secure. In the consideration of the venereal diseases this is especially so. It would almost seem that many practitioners attach a stigma, not only to the unfortunate victim of venereal infection, but to his physician also. Yet few of these men refuse to treat these cases when presented, and all practitioners, regardless of their special line of work, must frequently recognize and combat the various complications and sequelæ of the venereal diseases.

While public sentiment will always condemn those with venereal infections, and may even look slightly askance at the specialist in genito-urinary and venereal diseases; it remains for those medically educated to assist all unfortunates, and to recognize all honest physicians and meet them on an even footing. With such recognition and co-operation we will be ready to begin a crusade against the further spread of these diseases.

There is an apparent scale in the degree of dis-

grace attaching to those tainted, depending upon the character of their infection.

It seems most difficult to impress the laity with the fact that it takes but one exposure to infect with syphilis, and that therefore anyone who has ever transgressed the moral code is equally guilty with the syphilitic. In fact, it not infrequently happens that an innocent boy at his first indiscretion will become so infected.

Such an infection is ordinarily supposed to be the most dreaded of these diseases. Urethritis, however, in itself and its sequelæ, should be feared almost equally. With its various posterior involvements, the possibilities of stricture, epididymitis, orchitis, cystitis, arthritic and other constitutional manifestations, it is quite too serious to be passed over lightly, and frequently in point of time quite outlives a syphilitic infection.

Statistics in regard to the prevalence of venereal diseases are most untrustworthy and vary greatly with different compilers. Lawson Tait claimed that every man at least once in his lifetime had gonorrhœa. While we all know such a statement to be quite untrue, the fact nevertheless remains that venereal exposures, if not infections, occur in a very large percentage of males. It would seem that 75 per cent. were a conservative estimate. Here then is a condition for the physician and moralist to meet.

The desideratum is, first, to diminish the *number* of exposures and second to diminish the *danger* of exposures. These are matters that have been occupying the minds of many for years, and various efforts have been made to that end. The dangers can unquestionably be so greatly diminished as to make infection practically impossible, providing instructions are carried out in detail. But even if such precautions could be enforced (which unfortunately cannot be done) the moral question arises as to the propriety of such efforts, and they certainly do not accomplish the greatest good. Our first effort should be toward restricting immorality and it is by this alone that any local good can be accomplished. Innocent infections are not considered in this connection at present.

In addition to an educational and moral crusade among the laity greater effort should be made in our medical schools toward impressing medical students with the frequency and seriousness of all forms of venereal infections. Some country physicians, because they do not frequently see such seem to think that their patients are practically immune. That they fail to see a large per cent. of the acute cases is undoubtedly true and due to the fact that occupying positions as family

*Read at regular meeting Oct. 14th, 1903.

physicians and intimate acquaintances, patients hesitate to go to them for such troubles and go elsewhere for advice or seek aid from the advertising quack. Many such physicians tell us that they do not see one case of syphilis in a year, and yet these men have large general practices. Knowing the prevalence of this disease we can only conclude that many a mistaken diagnosis is made and many a syphilitic in a condition promising improvement or recovery, fails of such treatment as should protect him against tertiary manifestations. Or one unmarried is allowed to marry, thereby infecting a healthy bride and begetting a weakly, tainted progeny.

The accompanying symptoms of urethritis are usually so clear that one could hardly be excused for overlooking a diagnosis, but with syphilis the symptoms are so manifold, perplexing and sometimes so slight that in any stage one is excusable for hesitating to make a positive diagnosis. And yet this must be done. The cases must be watched, studied and proved. Not only is this necessary for the good of the patient but equally if not more important, for the protection of the public at large.

While we would improve the morals of our youths and lessen the dangers of infection, we must be prepared when they do occur, not only to recognize, but to treat them thoroughly and scientifically. By just such thorough treatment will we limit the further spread of disease through our individual cases. And not only must the cases be thoroughly treated but they must be watched to an absolute recovery. In gonorrhoeal urethritis repeated negative examinations should be made before a patient is discharged and the patients should be emphatically warned against marriage without a final preliminary examination. With syphilitics our judgment will be severely taxed in advising our patients as to their eligibility to marry. Another and greater difficulty arises in determining how to handle unruly patients. What shall we do with the man who, regardless of our most emphatic warnings, persists in careless habits in his daily associations? He is a constant menace to all with whom he comes in contact, and regardless of our anxiety, we are bound by our professional oaths to utter absolutely no word of warning. If this same man announces his intention to marry, despite our most vigorous protestations, what remains for us to do?

Undoubtedly effort must be made to improve the moral health of the country. The standards of morality vary in different communities. Unfortunately the general tendency is not toward

improvement. Existing conditions are nowhere favorable. In the so-called "smart set," virtue and morality are held but cheaply. The best conditions are found in the middle classes, where the life is not so strenuous and the fight for existence is not so bitter. Among the poorer classes, shop-girls, waitresses, stenographers and general help the pay is much too small. This female help is largely paid on a basis similar to that given to car porters who make the greater part of their income through tips. So with these girls, their positions serve only as opportunities to secure to themselves men who practically support them. Girls working for two to seven dollars a week, and living at home, cannot afford to wear such clothes as ordinary clerks are expected to wear; and stenographers and office girls afford such displays of jewels as we so frequently see on the small incomes secured to them by their positions. An improved improvement in morality and a proportionate diminution in the number of venereal diseases will be secured when employers are forced to pay living wages to their help.

In the *Philistine* for August occurs the statement that "Morality is largely a matter of geography. As Hancock said of the tariff: 'It is a local issue.'" And as it is a local issue, so, too, must the remedies to overcome immorality be adapted to the varying conditions of locality. So long as man exists, so long will immorality continue. Ideal conditions cannot be obtained. Clannish prostitution will always exist. We must satisfy ourselves with small beginnings. To combat an evil it must first be recognized; and it is in our hesitation to make any recognition of the prostitute that one difficulty lies.

In the large municipalities the methods adopted need to be quite different from those suitable to the smaller communities. In Japan the prostitutes are segregated in certain quarters, entrance to which are guarded by policemen who warn all comers regarding the character of the place they are entering. Drunken men are not allowed to enter and liquors are not sold within. In addition, printed instructions are given as to precautions to be observed in attempting to prevent infections. Such a plan in our larger cities would seem worthy of a trial. Many young men, and women, too, have lost their virtue by reason of intoxication, who, when sober, would not have yielded to such temptations. In the towns and villages a licensed prostitute would not be tolerated and we must turn our efforts along different lines.

We in Ann Arbor should be most interested in local conditions and their betterment. With a

population of probably over 5,000 young men, transient and local, all in the formative period, some effort should be made to protect them. This is particularly an educational center. Boys and young men are sent here from all over the country. Of these it is safe to say that 75 per cent., if not more, are innocent when they leave home. It is also safe to say that 50 per cent., or more, of these have lost their innocence before the termination of a four years' course at Ann Arbor.

What effort does the family, the university, the town or the medical profession make to protect these boys? Practically none! Most families trust their boys, thinking them better, stronger and less human than other boys. No one talks to them, warns them or shows them the way. The university makes no endeavor along this line. It would seem that something could be accomplished here. Is it a wise policy to shut our eyes to existing conditions? They are matters of delicacy and require the exercise of some tact, but they are not impossible. Should not educational lectures be given to the male students throughout the year? Particularly early in the year. The purist and sentimentalist would object to lectures upon how to *diminish* the dangers of exposures. It is not the province of a school to teach its pupils how to *avoid* the evils or results of transgressions; but it could and should teach them to *fear* those results. We must not look too closely at the means by which we attain the end. If the satisfaction of, and desire for clean living in itself will not keep one straight, sometimes the fear of results of transgressions may so stimulate their weakened morals as to steer them aright. If every young man could be convinced that he may ruin his life by only one night's folly, he might be made to hesitate.

They should be taught that disease cannot be recognized and that all immoral women are more than likely to be diseased. Many people believe that syphilis have the evidence of their disease stamped plainly upon them, and many more believe syphilis a very rare disease, while we all know that there is no more inconspicuous lesion than the primary sclerosis of syphilis, frequently almost impossible of demonstration on the female. As regards the local frequency of syphilis, it is surprising even to the medical man. While it is true that gonorrhœa is sometimes a self-limiting disease and usually easily cured, and also true that we believe syphilis to be ordinarily curable, the fact remains, that the sequelæ of gonorrhœa frequently present themselves years after, not only in the patient but in his wife and even in his offspring; and the syphilitic may die an early

death in an asylum, while the heritage of his disease will be transmitted even unto the third generation.

A few such facts as these clearly and simply explained would surely have a deterring effect upon many.

An extract from an editorial in a recent daily paper, inspired by Sothorn's play in Detroit, indicates somewhat the moral trend: "Dramatic expression of immorality is what the 'cultured audience' is after, and it must be expressed in the most explicit terms. There was a time when a vague suggestion of the indelicate situation was quite enough to satisfy this craving. Repeated indulgence, however, has served only to make more ravenous this appetite of the 'cultured audience' for what in Paris is called the 'risque,' and in Iowa the 'indecent.' Today the 'cultured audience' must have 'atmosphere,' the suggestive conversation, the completed illusion. The stage air must reek with the fumes of cigarettes and wine and insidious perfume. There must be left no relic of propriety to mar this absorbing picture of complete moral abandon."

Is this all indicative of higher education, more liberal tolerance, purer thought, blinding us to the suggestive, in the greater realism; or does it indicate a decadent moral sense, which needs go but a step further to allow us to look with equal composure and complaisance upon the same dramatic acts in private life and to receive the actors equally readily on social footings?

Is it not true that the great sin is in being found out? The *Philistine* says that: "Over one-half the support of prostitutes everywhere comes from married men." Can this be true without a certain tolerance on the part of society? Are people absolutely blind to these conditions? The court and legal exposures are not necessary in all cases. Public sentiment should be so strong that questionable conduct would ostracise a man; instead of which it frequently serves to popularize him. Many a man is welcomed into good society who is known to consort with questionable women. This may be a phase of the question which should not belong solely to the medical man. Such conditions nevertheless must be recognized and improved upon. Moral improvement will go further in limiting the spread of venereal diseases than an education in antiseptics.

The warfare against the spread of the venereal diseases must begin several steps back. The up-bringing, the early education, the environment, the atmosphere in which our boys live can so start them and guide them that they should voluntarily at all times shun immorality, and so avoid infections.

WAYNE COUNTY.

Meeting of the Surgical Section, November 2, 1903.

F. B. Walker read a paper, entitled "The Treatment of External Operation Wounds," which was discussed by Drs. Tibbals, Davis, Yates, Schenck, Sanderson, Meddaugh, Hirschman and Hitchcock. The paper contained so many points of general technic that an abstract is impossible. The synopsis is as follows: Closure of wound. Elimination of wound discharges. Protective dressing. Suture materials, and their application. Drainage and its usages. Relative values of the various wound dressings.

Meeting of the Section on Internal Medicine and Pathology, Nov. 9, 1903.

G. L. Connor presented a paper, entitled "Pathological Fragments." Immunity was defined and the nature, mode of action, and the specificity for cells and species of the antibodies discussed. Some of the results of the work lately done on antitoxins and cytolytins were reviewed. The writer then took up the subjects of thrombosis and hemorrhage, in the light of this recent work. The so-called "horror intoxicus" and autolysins were touched upon and the treatment and prevention of snake poisoning by the use of prepared snake blood discussed.

The discussion was opened by **P. M. Hickey**.

Meeting of the section on Gynecology and Obstetrics, Nov. 16, 1903.

W. M. Metcalf reported "Some Interesting Cases in Abdominal and Pelvic Surgery." Since the report made at the state meeting in June, Dr. Metcalf has had three cases of extra uterine pregnancy, all treated by abdominal section, and all making excellent recoveries. Attention was called to one symptom which all of these cases presented, and is quite common in this condition, i.e., pain in the neck and shoulders. The specimen from the second case showed the gestation sac attached to the fimbriated end of the tube by a well marked pedicle, a condition difficult to explain. The diagnosis of the third case between appendicitis and tubal pregnancy was most difficult, the operation showing that both were present.

CASE 4. Woman, aged 80, had an extensive carcinoma of the external meatus, involving the labia minora. Three-fourths of

the urethra, the clitoris, and the labia minora were removed. The questions which arise are: (1) In case of recurrence, should a more extensive operation be done, and (2) will the development be rapid or slow in a patient of this age?

CASE 5. Specimen showing a small fibroid in the posterior uterine wall, and a polyp of the mucosa, removed from a patient, aged 42, who had suffered from excessive flow, and agonizing pain during the first few hours of the period.

CASE 6. A multipara, of 42 years. Had suffered for 18 years with diarrhoea and hysteria. The uterus was bound down and adherent. After an hysterectomy, the bowel condition was entirely well and the nervous symptoms much better.

CASE 7. A specimen of enlarged prostate, removed by suprapubic prostatectomy, from a man, who had suffered from paradoxical incontinence.

CASE 8. The kidney and ureter removed in one piece, by extraperitoneal nephro-ureterectomy, from a man, aged 47, who had suffered since his fourth year, with attacks of kidney colic. A stone was found in the ureter, near the bladder.

J. H. Carstens exhibited a myoma, removed from a four months' pregnant uterus. The patient aborted on the ninth day. A second myoma was that removed from a woman, who had had a double oöphorectomy and fixation of the uterus, elsewhere, one year previously. An appendectomy, cholecystostomy, and closure of a large ventral hernia were done at the same time.

A general discussion followed.

General meeting, November 5, 1903.

C. D. Aaron presented a paper on "The Treatment of 442 Cases of Movable Kidney without Surgical Intervention." Dr. Aaron referred to the terms applied to the condition of nephroptosis, and said that surgical intervention should be reserved for the true "surgical kidney." When a proper mechanical support fails to hold the kidney in place, then and then only should operation be advised. The operation has a mortality of from 2 to 5%. Many operations have to be done a second time, because the kidney is not properly anchored, and the gastrointestinal symptoms are not relieved.

The views of Israel, Madsen, and Iapovski were cited. From the author's experience of 442 cases, he believes that 90% can be relieved without operation. Of this number, 329 were females, and 121 males. The ages ranged from 8 to 70 years. The right kidney was movable in 194 cases, the left in 20, and both in 228. Only two gave Dietl's crises, and these were referred to the surgeon for operation. Two hundred and fifteen cases have made an absolute recovery, 168 have improved, and 59 have not improved or have been lost sight of.

Dr. Aaron then spoke of a form of nervous dyspepsia depending on nephroptosis; many of which are treated for indigestion, hysteria, neurasthenia, uterine and ovarian disease, liver trouble, anæmia, and many other diseases. Movable kidney is responsible for constipation, backache, debility, acne, headache, nervous exhaustion, and a long list of other symptoms.

The main treatment of movable kidney is to support the kidney and along with this, such other abdominal organs as are displaced. This is accomplished by specially constructed bands, which must be carefully fitted to each patient. This the author does by making a pattern, using for the purpose a flexible lead tape. The pads must be so arranged that they will support the kidney. It has been found that 90 to 95% of the cases can be cured by a properly fitting band. As a usual thing this should be worn for one year. Besides supporting the kidney, diet, tonics, massage, and electricity play an important rôle. The histories of a number of cases were then given, and charts, showing general enteroptosis, exhibited.

B. R. Schenck gave a paper on "The Results of 48 Kidney Fixations." The great differences of opinion as to the proper treatment of nephroptosis and the difficulty of deciding between them were spoken of and the importance of reporting cases, treated by different methods, emphasized. The relatively fixed position of the kidney is produced by a combination of several different factors, the principal of which are: (1) The peritoneal folds; (2) the subperitoneal connective tissue; (3) the adipose capsule and fat; (4) the vessels; (5) the connections with the adrenal; (6) intra-abdominal pressure; and (7) the configuration of the posterior abdominal wall. A short review of the work of Wolkow and Delitzen on the para-vertebral niches, and Becker and Lemkoff's views of the relation between movable kidney and certain body types, was then given.

The forces tending to displace the kidney are: (1) contractions of the diaphragm; (2) influence of liver and spleen; (3) pregnancy; (4) disappearance of the fat; and (5) traumatism. The oft repeated slight traumata are the most potent. For any or a combination of any of these factors to be effective, the author believes that a certain anatomical condition must be present.

Although nephropexy was first done by the late Professor Hahn of Berlin, the development of the operation has been principally here in America. There are several excellent operations, but the simplest method is that practiced by Kelly. The kidney is exposed through the superior lumbar trigonum of Henle, and 2, or sometimes 3 triangular silk sutures inserted as advised by Broedel, so as to hold the posterior surface of the kidney to the quadratus lumborum muscle. Great care must be taken to observe the relations of the kidney, and not to include the first lumbar nerve in the sutures. (Note—This manner of placing the sutures is practically the same as that devised independently by Goelet of New York. See *American Medicine*, vol. iv., p. 176, Aug. 2, 1902.)

A table of the results of 48 operations, done at the Johns Hopkins Hospital, by this method, was shown. None of the cases done during the last eighteen months were included in the report, the author believing that the results can be judged only after that length of time. Cases of general enteroptosis should not be treated by operation. It is especially indicated in the class of cases giving symptoms referable to the kidney itself, of these there were 25 cases, 18 absolutely well, four improved, and three unimproved. The four cases improved are all much better, but have slight discomfort, following, in three cases, subsequent pregnancy. Of the three unimproved, two were cases of enteroptosis and should not have been operated upon, while one was an absolute failure.

Of the eight cases giving gastric symptoms, three are perfectly well, three much improved, and two unimproved.

Fifteen cases gave nervous symptoms, and of these seven are well, five improved, and three unimproved.

T. A. McGraw, in opening the discussion, said that the tendency is probably to operate too much. He referred to the physiologic mobility of the kidneys and said that the operation should be reserved for the cases where the symptoms were referable to the kidney itself, or where marked nervous symptoms are present. Belts, at the best, are very uncomfortable, and when tight enough to affect the kidney cannot be worn. Scar tissue

after an extensive operation, as in splitting the capsule, is apt to cause trouble.

Angus McLean spoke of the large number of double nephroptoses in Dr. Aaron's list, of physiologic mobility, and the difficulty of making a diagnosis of pathologic mobility.

J. A. Attridge disputed the high mortality, as given by Dr. Aaron, and deprecated the use of the belt. The operation which he had found satisfactory in one case was that of Edebohls.

L. J. Hirschman thought that one reason the patients treated with the belts say that they are better, is on account of the feeling of support and wellbeing, given by the bandage. He considers the treatment to be irrational.

W. P. Manton referred to the degrees of mobility and gave his preference as that of the Edebohls operation of splitting the capsule.

A. N. Collins spoke of the impossibility of fixing a loose round body in the abdomen by any form of bandage.

F. W. Robbins said that though the Edebohls operation may give a firmer support, it is a more difficult operation and one of greater mortality. He had seen the simpler operation, as done by Kelly, and believes that it has no mortality, other than that of the anesthetic.

Meeting Nov. 12, 1903.

W. M. Donald's paper was entitled "Cause and Treatment of Morphine Inebriety." Considering that there are at least 100,000 victims of the morphine habit in the United States, the importance of the subject is evident. It has been stated by Kipling and others that the use of opium, in its various forms, is as common among the Orientals as that of tobacco and alcohol among Occidentals, yet the reason that the effect is less upon these peoples is not evident.

The chief etiological factors in the production of the morphine habit are: (1) Pain, mental or physical, real or fancied, and (2) insomnia. Physicians are responsible for a large part of the inebriety. Of Dr. Donald's last four cases, two were physicians and one the wife of a physician. The rule should be for the doctor to dispense the drug and not write prescriptions, which may be repeated over and over again. Physicians are not to blame in the cases who acquire the habit on account of insomnia. The idle rich take opium to relieve ennui. We should teach the laity the terrible effects of the habit.

Although many cases are treated, the actual cures are few. Our best efforts should be directed toward the prevention of the habit. The

methods of treatment are four—(1) Sudden withdrawal; (2) fractional reduction, over four to six weeks; (3) substitution method, making use of chloral, hyosin, etc.; (4) gradual withdrawal, over 7 to 10 days. The first method is cruel and unsafe, the second is too tedious, and the third has little advantage. The author treats his cases as follows: Send patient to a hospital, remove all the clothes and search them and the patient very carefully. Ascertain as soon as possible the minimum amount necessary to keep the patient comfortable, and begin on this. This will usually be about one-half the amount which the patient says he is taking. This amount is now cut down from one-eighth to one grain a day until none is given. Hot baths, massage, and sometimes lavage are employed. Nux vomica is given. Forced feeding is a very necessary part of the treatment. The patient should be kept in bed at least two weeks and the treatment should be continued for six weeks, or better eight. If possible, a special nurse should be in attendance.

Dr. Flinterman, in opening the discussion, said that he did not consider eight weeks long enough to complete a cure; that often a year is necessary. Often physicians are to blame for the habit, as they prescribe opium for the pain in diseases where there are repeated attacks of pain, as in locomotor ataxia, gall stones, etc. The forensic question of the responsibility of the morphine habitue, is an important one. Morphinism the speaker defined as the craving for the drug by the organism, caused by chemical changes in the central nervous system.

Dr. Hitchcock spoke of the importance of not trusting these patients, and outlined his method of substituting other substances, often inert, in the capsules, during the treatment.

Dr. Clark believes that the drug stores are more to blame for the prevalence of the habit than are the physicians. The great factor in the treatment is the upbuilding and training of the morale of the patient.

Dr. Duffield referred to the use of ergot as a substitution drug.

Drs. Chittick, H. Wright and Carrier also spoke.

In closing, **Dr. Donald** said that patients can be committed for this habit, and absolute control thus obtained.

The president, **Dr. Jennings**, spoke of the movement in the city to establish a Walker-Gordon laboratory.

The meeting of November 18 was given up to a social evening, a symposium on "Automobilious Fever" being held, after which refreshments were served.

PUBLICATION COMMITTEE.

REPORT OF LECTURER 3RD DISTRICT.

BATTLE CREEK, December 8, 1903.

EDITOR—Although not in my district, I was called upon by Dr. W. H. Haughey, Councillor of the 3rd District, to fill an engagement for him with the Barry County Medical Society, which held its annual meeting and election of officers in Hastings, Thursday, December 3rd. Dr. Haughey, so prominent in all society work, has been called by some outside interests to visit Cuba, where he will be for the next month or two, and for that reason was unable to keep this engagement.

Your lecturer received a most hearty welcome and had a most delightful experience with the different members. The annual election passed off nicely, while perfect harmony seemed to prevail. The scientific papers presented before the society were of rare merit and brought forth very able and pertinent discussion. Dr. Schuyler Colfax Graves, of Grand Rapids, read a paper entitled "The Operative Incision," which appealed very forcibly to the physicians assembled, particularly those of surgical tendencies. Dr. J. J. Mercen, of Holland, read a paper entitled "Retro Displacements of the Uterus," which showed that he is not only a painstaking and careful physician, but an expert surgeon, and has well employed the few years of his medical practice. Dr. J. H. Reed, of Battle Creek, read a paper on the "Presence of Acetone and Diacetic Acid in Diabetes Mellitus," which brought forth some very kind and pleasant comments.

Several new members were elected and the meeting adjourned after having elected a new corps of officers for the ensuing year, and as these will appear in the report of the secretary of the society, I will not infringe upon his right. Your lecturer wishes to acknowledge the cordial welcome and kindly greetings extended to him on this his first visit to the Barry County Medical Society. Unity and prosperity seemed to be the watch-word.

For the first time in the history of my lecturship I report the proceedings of my own society, the Calhoun County Medical Society, Branch No. 1, which held its annual meeting, and election of officers followed by a grand banquet at the Battle Creek Sanitarium. The retiring president read a magnificent paper upon the subject of "Catholicity in the Practice of Medicine." Dr. F. W. Robbins,

of Detroit, contributed a valuable paper entitled "Hemorrhage from the Bladder," while Dr. Angus MacLean, of Detroit, presented a very valuable surgical paper entitled "Congenital Dislocation of the Hip." He exemplified his mode and manner of procedure from two standpoints, surgical and bloodless, in which latter he referred to Prof. Lorenz and clearly demonstrated the fact that Prof. Lorenz was not the author of "bloodless operations." Dr. J. H. Reed, of Battle Creek, presented "A Contribution to the Chemistry of Diabetes Mellitus, with Special Reference to Coma and its Treatment." While perfect harmony did not altogether prevail, the meeting was a grand success, and the report of the Sec.-Treasurer showed prosperity in all branches of the society.

The following officers were elected for the ensuing year: President, Dr. J. C. Brown; Vice-President, Dr. A. J. Abbott; Sec.-Treas., Dr. W. H. Haughey, while Dr. Louis S. Joy, the retiring president, entered the board of directors, Dr. C. J. Vary retiring, his term having expired. The banquet at the Battle Creek Sanitarium was magnificent in all its details, about one hundred and fifty members and their ladies being present. Dr. Geo. C. Hafford, of Albion, ably filled the position of toastmaster, while suitable responses to assigned toasts were made by Drs. Breakey, Bulson, Biddle, Joy, Brown, Kellogg and others in which my memory fails me.

I should not close this report, however, without giving due mention to the address of Mr. Joseph L. Hooper, Pros. Attorney of Calhoun County, who made a telling speech which was received with vociferous rounds of applause. The society is to be congratulated upon the work of its committee on annual meetings who so carefully planned this magnificent banquet for the social and pleasant intercourse of the members of the society. At the conclusion of the festivities the society adjourned to meet in Albion the first Tuesday in March, 1904.

Respectfully yours, JAMES H. REED,
Lecturer of the Third District.

The Council of the Indiana State Medical Society advised that no delegate be appointed to the so-called American Congress on Tuberculosis at St. Louis in 1904, organized by Clark Bell of New York, because it does not regard the proposed Congress representative either of the medical profession or the best scientific thought of the country. This action it has given to the Medical Press and Hon. John Hay, Secretary of State at Washington, who has been asked to lend official aid to the movement. What state votes next?

Important Relations Which Exist Between Typhoid Fever and Tuberculosis.

1. These diseases may be concurrent.
2. Enteric fever may be mistaken for tuberculosis. This is rare.
3. Very much more frequently tuberculosis is taken for typhoid fever. There are five types of tuberculous infection which may simulate typhoid:
 - (a) Acute miliary form.
 - (b) Tuberculous meningitis.
 - (c) Tuberculous peritonitis.
 - (d) Acute toxemia of certain local lesions.
 - (e) Forms of pulmonary infection.

Dr. Osler calls especial attention to the last two.

4. In rare cases pulmonary consumption follows typhoid fever (*American Medicine*, Dec. 26, 1903, by William Osler, M. D.)

Poisoning with Asperin.—A patient, 29 years old, took nine grains of asperin. Within fifteen minutes, he developed symptoms of salicylic acid poisoning. By means of stimulants, the patient recovered in five hour. Dr. Borri states that the molecule of asperin is not as stable as has been claimed. As the amount of salicylic acid in this drug is small, it is probable that there is a peculiar union between this acid and acetic, thus rendering its effect toxic.—*Gazzetta Degli Ospedali E. De. Le C. Iniche.*, September 13, 1903, by Andrea Borri.)

Causes of the Occasional Failure of the Operation to Cure Gall Stone Disease.

1. Incomplete removal of stones.
 - (a) Stones in the cystic duct may escape the notice of the surgeon because of the depth of the parts affected and the obesity of the patient. Robson's technic has made it easier for the operator to expose these parts.
 - (b) A stone may be present in the common duct in cases operated on for gall stone of cystic duct. As the former stone gave no symptoms it may escape the operator's notice.
2. Secondary obstruction of the cystic duct, preventing free drainage down through the passages.
3. Chronic pancreatitis—Here drainage must be long continued to obtain good results.
4. Cancer of gall-bladder may be mistaken for inflammatory disease or it may appear after the gall stone operation.
5. Post-operative adhesions, especially those to the stomach and duodenum.
6. Hernia, following operation for gall-stone disease.—(*Journal of the American Medical Association*, Dec. 26, 1903, by W. J. Mayo, M. D.)

Circulation of Cerebro-Spinal Fluid.—Cathelin states that cerebral spinal fluid circulates in a manner similar to the lymph. It comes from the blood and returns to it through the lymph circulation. He gives diagrams illustrating it. (*Presse Medicale*, Nov. 14, 1903, by F. Cathelin.)

A Device for Premature Baldness.—Observing cases of alopecia, especially of the premature variety, one is impressed by the prevalence of this trouble under certain conditions and its absence in others, as in the senile variety, where one might expect it. The savage and half-civilized people are afflicted but rarely with alopecia. Baldness is much more frequent in men than in women. Dr. Gilbert concludes that it is often due first to the tight hat band and second to the impervious material from which the hat is made. The former cuts off the free circulation of the blood from the scalp and leads to atrophy of the hair bulbs. The latter, because of the lack of ventilation, keeps the head, after a free perspiration, in a constant state of moisture andogginess, thus acting as a continuous poultice.

The effect of this kind of headgear is more marked because of the superficiality of the temporal vessels.

As a remedy for premature baldness, he suggests the insertion of cork blocks at certain points in the hat band in juxtaposition to the head. (Of course, the use of these will necessitate the patient buying a hat slightly larger than he has been wearing). These blocks should be so placed as not to impinge on the larger arteries. The use of this device gives the scalp more air and there is less pressure on its blood supply.—(*New York Medical Journal*, Dec. 26, 1903, by John Gilbert, M. D.)

The Prompt Collection of Fees.—One of the first things I made up my mind to attend to after I entered the practice of medicine was to try to collect my bills. This I have been fairly successful in doing. I follow out this plan. My bills are sent out the first of the month. I invariably do this for the following reasons:

1. If there is any misunderstanding as to the amount, it is fresh in our memories, and we can straighten it out with satisfaction and dignity to all concerned.
2. I know where my patient lives.
3. Patients pay quicker, because they have not had time to lose all the gratitude that was born in them while they were sick.

If I know a patient is a deadbeat, then I respond to the call upon one condition, and that is the money is to be paid in advance or I tell them it is their privilege to seek any of my neighbors.—(*Lancet and Clinic*, by M. A. Tate, M. D.)

CHANGE IN MEMBERSHIP.

Nov. 15th to Dec. 15th.

NEW MEMBERS.

D. G. Cook—Battle Creek.
 M. V. Dryden—Battle Creek.
 J. M. Greene—Lansing.
 J. E. Heald—Battle Creek.
 C. J. Hobbs—Battle Creek.
 W. N. Kenzie—Battle Creek.
 A. S. Kimball—Battle Creek.
 B. E. Manchester—Crystal Falls.
 M. B. Martin—Battle Creek.
 O. A. Tooker—Lansing.
 F. N. Turner—Weberville.
 W. H. Veenboer—Norway, Mich.
 J. A. Vernier—Battle Creek.
 J. A. White—Battle Creek.

CHANGE OF ADDRESS.

W. G. Rice—665 2nd Ave., Detroit.

DEAD.

J. Cahalan—Wyandotte.

MORTALITY OF MICHIGAN DURING
NOVEMBER, 1903.

There were 2,623 deaths reported to the Secretary of State for the month of November, or 1 death less than the number for the preceding month. The death rate was 12.9 per 1,000 population.

By ages, there were 412 deaths of infants under 1 year; 171 deaths of children aged 1 to 4 years inclusive, and 789 deaths of elderly persons over 65 years of age.

Important causes of death were as follows: Pulmonary tuberculosis, 158; other forms of tuberculosis, 27; typhoid fever, 80; diphtheria and croup, 112; scarlet fever, 14; measles, 7; whooping cough, 28; pneumonia, 206; cancer, 140; accidents and violence, 194.

The number of deaths reported from typhoid fever was less than during October. Tuberculosis also showed a decrease, while diphtheria, scarlet fever and other diseases of children showed a considerable increase.

There were no deaths from smallpox during the month. One death from chickenpox was reported from Ashland township, Newaygo county.

Book Notices.

TUTTLE'S "TREATISE ON THE ANUS, RECTUM AND PELVIC COLON." A Treatise on Diseases of the Anus, Rectum and Pelvic Colon. By James P. Tuttle, A. M., M. D. With eight colored plates and three hundred and thirty-eight illustrations in the text. New York and London: D. Appleton & Company. 1893. Cloth, pp. 961.

Not the least important field in surgery is the rectum. Until comparatively recent years it was mainly in the hands of traveling "specialists" otherwise known as quacks. Each of the latter had the power of doing some good in some cases, but was especially strong in the ability of "manipulating" the dear public. An occasional surgeon of repute, as the late Willard Parker of New York, recognized the splendid possibilities of rectal surgery, did some himself and stimulated his students to do more. Doubtless the meager attention given rectal disorders in undergraduate medical schools has given greater prominence to that done by the rectal clinics of the post-graduate schools. Dr. Tuttle for more than a decade has conducted a very large clinic of this sort, and so has been able to test the views of previous workers, and formulate such procedures as his actual observations warranted. This shows that different methods are best for different cases, as expert clinicians have found in other fields of medicine; hence a practitioner should become familiar with all known methods, so being armed for every peculiarity of different cases. This method has led the author to give not only his own practices and opinions but those of other workers in the same field, but the latter are fully digested and stated in their fitting place.

To examine properly, correctly determine the nature of a case, give a rational prognosis, and institute local treatment, operative or non-operative are the foundations of successful practice and are fully dealt with by the author. Very many cases are thus readily restored to health, ere organic disease necessitates operative procedures; others call for radical operations. To recognize the limitations of non-operative, and the necessity for operative treatment is a high art and Dr. Tuttle has made this possible for such practitioners as will master this book. Three hundred and thirty-nine illustrations largely original, and many full-paged colored plates, make clearer the writ-

er's descriptions of observed conditions and methods of examination, diagnosis and treatment—operative or non-operative.

In so far as is possible this is an original work; little is superfluous; all is to the point with that happy judgment which uses neither more nor less phrases than necessary to render his meaning both clear and forceful. All general practitioners may not spend a year at a rectal clinic, but all may master this work, and make themselves far more capable of managing this important class of cases.

Further, as every human being has a rectum, whose disorders are not unlikely to modify morbid action in any other part of the body, all specialists as well as rectal ones would be both interested and profited by the mastery of much if not all of this work.

Finally this belongs to the small class of books, whose facts have been mastered by the writer, tested in the crucible of his actual experience, and presented in a form readily comprehended, with a scientific spirit and teachable method.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

The Pharmacologic Action of Drugs.—Vejux-Tyrodé gives a very interesting historical discussion of the relation between the pharmacologic action of drugs and their therapeutic indications. At first drugs were used empirically, largely according to the user's individual experience. As a result many systems of therapeutics based on sophistry have come and gone. Pharmacology has been slow to develop because the methods of observation formerly used to study the action of drugs were entirely wrong. While the theory of obtaining knowledge by experimentation is good, conclusions should be made with great caution. Pathology teaches that disease is due to the abnormal increase, decrease, or arrest of function from some cause. Hence drugs should be directed toward that cause; but unfortunately we do not know the cause of many diseases and moreover few drugs act on even known causes. Few clinicians to-day fail to realize the usefulness and even the indispensability of the accurate knowledge of the action of drugs. We should know, for example,

that while morphin relieves the pain of pneumonia it may cause asphyxiation from depression of the respiratory center. Morphin, no matter how taken into the body, is eliminated into the stomach. To prevent re-absorption in cases of poisoning from the drug, repeated washing of the stomach for hours afterward will be necessary.

Again, ether and chloroform are absorbed in the blood according to the law of partial tension. Therefore the intensity of action depends not on the total amount used but on the concentration in the blood at a given time. Death often occurs from giving them in too concentrated a form. Neither of these drugs, it has been found, has a direct stimulant action on the heart, but depresses it when given in sufficient doses. Hence the uselessness of ether subcutaneously in collapse.

No antiseptic can be placed in the blood in a form concentrated enough to destroy bacteria. Therefore the use of all known drugs, as benzozol, formaldehyde, etc., should be discontinued, because useless and tending to decrease the vitality and even hastening death.

Apomorphin lately lauded in the treatment of acute alcoholism as a hypnotic has no narcotic effects except just before producing death. Hence any effects it may produce are from its emetic action.

Chologogue effects are produced by the bile alone. Hence all so-called chologogues are merely cathartics and produce results from their purgative action only.

The use of mineral baths has lately been found to be very limited. Neither water nor the salts are absorbed through the unbroken skin. Their action, therefore, is local and of an irritant character only, producing reflex stimulation of circulation, respiration and metabolism. Because of this increase in the metabolism, any chronic ailment will be temporarily helped. As the salts and alkalies will dissolve mucous, mineral waters will be useful in catarrhal intestinal conditions where the mucous adheres to the intestinal wall. As good results, however, might be obtained at home by baths and by drinking water to which the various salts have been added, if you will exclude the psychic effects and careful regimen of the spa.—(*Jour. A. M. A.*, Nov. 21, 1903.)

Typhoid Fever and Lemon Juice.—Bissell has tested the value of lemonade in rendering the typhoid bacillus inert. He uses three methods. Ordinary strength lemonade added to bouillon growths of the bacillus; in the

other two the same strength lemonade to which was added dried specimens of the bacillus. His conclusions are as follows: First, that lemon juice in the proportions given (the strength of ordinary strong lemonade) has little, if any, germicidal action upon typhoid bacilli. Second, that this method of treating water to prevent a possible typhoid infection should be discouraged.—(*N. Y. Med. Jour.*, Nov. 21, 1903.)

SURGERY.

Under the charge of

MAX BALLIN.

Dangers of Trendelenburg Position.—The advantages of elevating the pelvis in operations on the pelvic organs are so many that nowadays most surgeons apply this position, first recommended by and named after Trendelenburg, in nearly all operations on the pelvic organs, some also in suprapubic cystotomy, in appendectomies and radical operation for hernia. Still this posture seems to be followed sometimes by dangerous sequels: P. Kraske (*Archiv fuer klinische Chirurgie*, Vol. 71) draws attention to the changes in the circulation, to the congestion of heart, lungs and brain caused by the inverted position of the body. He claims this posture to be responsible for the fatal termination of two cases of suprapubic lithotomy. Both patients were suffering from myocarditis; the operation was quickly performed, but right after the operation the heart grew weaker and weaker until death occurred, in one case two days, in the other four days, after the operation. In these cases the Trendelenburg position was only supposed to be responsible for the fatal termination. In another case of intestinal obstruction after a suprapubic lithotomy Kraske could show by a secondary operation and by autopsy that the posture was responsible for the postoperative complication. The patient was a very fat man; 24 hours after the lithotomy symptoms of intestinal obstruction and hematemesis occurred. On the fourth day secondary operation for the relief of the obstruction showed that the whole very fatty and voluminous omentum had slipped into the space between liver and colon transversum, twisting the latter upward. The patient died in spite of removal of the obstruction. Autopsy showed numerous punctiform hemorrhages in the mucosa of the stom-

ach. There can be no doubt but that this peculiar dislocation of the omentum had occurred during the elevation of the pelvis. Also the small hemorrhages in the mucosa of the stomach and the hematemesis were probably caused by venous congestion following the pressure by the dislodged omentum. Kraske holds that before closing the abdominal cavity the patient should be always put back into horizontal position, omentum and intestines should be replaced in the normal position (in cystotomy by external pressure) before suturing the wound. In fatty patients and in those with alterations on heart and blood vessels elevation of the pelvis should be avoided.

Intestinal Localization.—The question of locating a loop of small intestine withdrawn through an abdominal section is often very difficult to answer, especially if the normal conditions are modified by inflammatory processes, intestinal distension or tumors. Yet it may be very important, for instance, in enteroanastomosis or in obstruction of the bowels to know whether a loop is near the duodenum or close to the ileo-cecal valve.

George H. Monks (*Annals of Surgery*, October, 1903) gives a very valuable contribution to this question, entitled "Intestinal Localization." He found that an approximate localization of a part of the small intestine is possible through a small abdominal section by observing certain characteristics, as its position in the abdominal cavity, its size, color and thickness, the presence or absence of valvulae conniventes, the thickness and translucency of the mesentery and especially the distribution of the blood-vessels in the mesentery, etc. Taking the average length of the small intestine at 21 feet, there are the first seven feet usually located in the left hypochondrium, the middle third in the middle section of the abdomen and the lower third in the pelvis and in the right iliac region. The color of the first 14 feet is bright pink, the color of the last seven feet yellowish-gray. The size and thickness of the intestine decreases from the duodenum downward. Valvulae conniventes are large and numerous in the first third, absent after a distance of 14 feet from the duodenum. The mesentery is thin and translucent in the upper third, thick and opaque near the colon, tabs of fat on the intestinal attachment of the mesentery commence at about the fourteenth foot of the small intestine. The vessels of the mesentery form only one loop in the first four feet,

further down two loops and are entirely irregular in the lower part of the ileum. The observation of these and other characteristics enabled Monk to locate correctly with only small errors at least on the cadaver any loop of small intestine withdrawn through a small abdominal section.

GYNECOLOGY AND OBSTETRICS. I.

Under the charge of

B. R. SCHENCK.

Urinary Hyperacidity.—T. R. Brown again calls attention to the cases simulating cystitis, in which the symptoms are due, not to an infection of the bladder, with true inflammation, but to an irritation of the mucous membrane, caused by an abnormally high acidity of the urine. From repeated examinations, Brown believes that the normal acidity is 25, i. e.—100 c. cm. of urine are neutralized by 25 c. cm. of deci-normal sodium hydrate solution. In the cases under consideration it was found to be from 2 to 5 times this amount. If this condition is not recognized by carefully excluding, by means of cultures, a true cystitis, unnecessary local treatment may aggravate the symptoms and finally cause infection and inflammation. The condition is usually of neuropathic origin.

During the past two years the writer has met with ten cases, the histories of two of which are given. With one exception all were in neurasthenics. Most of them had been diagnosed as cystitis. Brown believes that this condition occurs frequently, and that it is often misinterpreted and erroneously treated.

The treatment consists in the administration of potassium citrate in x to xxx gr. doses every four hours, until the acidity is reduced to, or below, normal, and then in sufficient doses to maintain this. Sodium bicarbonate may also be used. Large quantities of any pure water should be taken. Irrigations and local treatments are absolutely contraindicated. —(*N. Y. Med. Jour.*, Nov. 14, 1903; *Phil. Med. Jour.*, March 2, 1901.)

Sphygnomanometer.—Graves describes a modification of the Riva-Rocci sphygnomanometer, for use in the operating room which obviates the inconvenience attending the use of the mercury instrument. An ordinary aneroid manometer is used as an indicator,

the lever controlling the needle being bent backward so that the excursion of the latter will be greater and the graduations on the dial farther apart. The scale on the face is etched to correspond to millimeters of mercury. Such an instrument is simple and has been found to give very satisfactory results at the Free Hospital for Women in Boston.—(*The Bulletin of the Free Hospital for Women*, Boston, Vol. 1, No. 2.)

The Treatment of Puerperal Sepsis.—Montgomery speaks of the decrease of the disease during the past 30 years, and of the tendency to hide the true condition by diagnosis of la grippe, malaria, typhoid fever, etc. Much difference of opinion as to the proper treatment exists and many procedures are advocated. Montgomery deprecates the use of the serum, hysterectomy, and the infusions of formalin. After trying the latter, he believes that it is no more efficacious than normal saline. The patients must be kept clean, vaginal douches of sublimate (1 to 2000) or formalino (1 to 1500) given, and the condition of the bowels and the kidneys watched. Coal tar products should not be used, but high temperatures combated with cold sponges. Frequent enemata of salt solution are useful. Local inflammation in the pelvis is to be treated by the application of ice, and pus, should it form, be promptly evacuated by vaginal incision. When the infection is profound, without local manifestations, saline infusions offer the best hope of recovery. Not over 750 c. cm. should be given at one time. —(*Amer. Med.*, Vol. VI., p. 735, Nov. 7, 1903.)

Eclampsia.—Tschernomordik gives some valuable statistics on this disease from the Charite in Berlin. During the ten years previous to 1899 there were 322 cases, or 1.83% of all births. It occurred more frequently in primiparæ than multiparæ, and was oftenest observed only during the confinement. Next in frequency was during the puerperium, during labor and the puerperium, and lastly during the pregnancy alone. The maternal mortality was 23.9%. There were 12 cases of twins, and 103 still births. Albumen occurred in the urine in all but 6 cases.

The treatment consisted in the administration of morphia and chloral and the speedy termination of the pregnancy. The fatal cases were studied with a view of determining the cause of eclampsia, but nothing new was demonstrated.—(*Gen. f. Gyn.*, 1903, No. 41, Oct. 10.)

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Original Articles

THE RELATION OF SURGICAL PATHOLOGY TO SURGICAL DIAGNOSIS.*

JOSEPH C. BLOODGOOD.

(Associate Professor of Surgery, Johns Hopkins University, Baltimore.)

It cannot be denied that surgical technique is far in advance of surgical diagnosis. In the great majority of instances the failure to cure is due, not to the fault of the operative procedure, but to the fact that the operative intervention has been instituted at too late a stage of the disease.

This fault is due to three factors:—(x), which we may call the period of latency of the disease, *i.e.*, the time during which the lesion has not attracted the attention of the host; (a), the period during which the patient delays before seeking the advice of the physician; (b), the time spent by the physician in coming to some conclusion in regard to treatment.

To shorten the period (x), the latent stage, is beyond our power, but fortunately but very few surgical diseases become incurable during this period.

Before attempting to shorten the second stage, (a), that is the time during which the patient waits, we should attempt to correct our own shortcomings.

Without much doubt the far better results of the earlier operative intervention will soon reach the public and shorten the third stage of the delay.

The paramount object of surgical diagnosis is to recognize a lesion in that stage in which operative interference will not only give the best chances of a permanent cure, but will accomplish a cure with the least danger to life, and mutilation of the individual.

The hope of future surgery lies, therefore, with the general practitioner. It is he who should be impressed by the undisputed fact, based upon the accumulated experience of careful records from large clinics, that permanent results depend most upon early, the very earliest possible, operative interference.

To shorten the period (b), during which time the physician delays, we should seek to instruct ourselves to be content with less positive symptoms. We must base our clinical diagnosis, not on a symptom complex which enforces delay, but on the symptoms present at the first examination. In a majority of instances a careful

*A portion of paper presented before the Wayne County Medical Society January 7, 1904.

study of the clinical history and a painstaking examination will allow one to decide whether delay is justifiable.

It is unnecessary and dangerous to delay treatment for exact diagnosis; the question is, not what is the exact nature of the surgical disease, but, rather, is it, or is it not, a lesion which will allow delay.

For example, given a patient exhibiting symptoms pointing to some acute abdominal trouble, the question of importance to decide is not so much what the exact lesion is, but are there sufficient symptoms to indicate an immediate laparotomy. In many acute abdominal lesions a delay of even a few hours is fatal. A mistake in the locality of the incision which would compel a second opening is trifling as compared with the delay of an hour in order to be more positive in regard to the locality of the lesion. In gastric, duodenal and typhoid perforations, a decision must be made at once in order to save the life of the patient. It is unnecessary to mention the danger of delay in intestinal obstruction. Yet to recognize this lesion in an early stage, in which the chances of recovery are greatest, one must be content with fewer and less positive symptoms than have been considered in the past, and a new sign, a rise in the number of the leucocytes, has been found to be one of the most important aids. Delay in appendicitis in many instances means death or an abscess formation, which demands drainage. It is far more difficult to diagnose appendicitis in the proper stage for operative intervention, than to perform the operation. It is much easier to instruct students in the operative technique of appendectomy than to teach them the timely recognition of the lesion. Place a recent graduate in a large surgical clinic, and he will become an efficient operator long be-

fore he becomes an expert diagnostician.

To illustrate the importance of an earlier working diagnosis, I shall confine my remarks this evening chiefly to the diagnosis of tumors, and later further illustrate by a lantern slide demonstration on diseases of the breast and bone.

The records of a large surgical clinic are pathetic in regard to malignant tumors. Fortunately there is more than sufficient evidence to indicate that a malignant tumor in its early stages is a local disease. This fact should be impressed upon the laity and upon ourselves. As long as cancer and sarcoma are confined to the locality of their birth, they are curable. In addition, many cases of carcinoma are curable, even where metastasis has taken place to the neighboring lymphatic glands. Accumulated experience demonstrates that in the period (x), during which a tumor does not give sufficient evidence of itself to attract the attention of its host, the disease seldom becomes incurable.

The stage (a), due to the delay of the individual, unfortunately in many cases is fatal. But when we come to study the clinical histories with care, we are chagrined to find that the incurability of the lesion can be attributed just as often to the physician's procrastination as to the individual's ignorance or timidity.

A decision in regard to a tumor should be made at once. The terms "innocent" and "malignant," employed by Bland Sutton in his excellent text book on tumors, are most appropriate, and we can use them in formulating a law in regard to the treatment of tumors directly opposite to the almost universal law applicable in the trial of individuals accused of crime, namely, a tumor should be considered malignant until every means has been exhausted to demonstrate that it is innocent;

also in regard to tumors in contrast to the treatment of individuals, "Lynch law" is by far the better procedure than "due process," so frequently followed in waiting for developments.

The responsibility of the physician, whose advice is sought by an individual in regard to some tumor formation, is great, if he advises delay, and if during this period the tumor becomes inoperable locally, or destroys the possibility of a permanent cure by internal metastasis, the odium should fall upon him, and not upon the later surgical intervention.

In a clinical diagnosis of tumors, we may divide them into three groups:—benign, doubtful and malignant.

If a patient first comes under observation when the tumor is undoubtedly malignant, there is no question in regard to immediate operation, and should the operation fail to cure permanently, the fault lies with the patient.

A clinical diagnosis of a benign tumor should only be made in those cases in which there is no possibility of mistake. This is possible in many instances, and an operation need not be advised. All tumors which are not benign or malignant, belong to the second group. In such tumors delay is never justifiable. Immediate surgical intervention should be not only advised but urged.

It is in this group of tumors in which a clinical diagnosis sufficiently positive cannot be made, that the relation of surgical pathology to diagnosis becomes of paramount importance, because our inability to make a clinical diagnosis demands an exploration of the tumor, and at this exploration we should be prepared to recognize the lesion by the gross appearance of the disease exposed by the knife. The object therefore of surgical pathology is to

instruct in the positive recognition of surgical lesions by their naked-eye appearances. The study of surgical pathology demonstrates that such a gross pathological diagnosis is possible in the great majority of instances. The thorough investigation of what we may call the clinical history and picture, the gross pathological appearances confirmed by microscopic study, and the ultimate result after operative interference demonstrate that

1. A certain number of tumors can be recognized from the clinical history and picture as benign; in some of these cases operative removal is not necessary, in others in this group operation is indicated on account of the size or discomfort of the tumor, or because experience demonstrates that these tumors have a tendency to become malignant, and of course there can be no dispute that it is far better to remove them in the benign period;

2. In other tumors it is absolutely impossible to make a positive diagnosis; for this reason an exploratory operation is imperative. The nature and extent will depend upon the character of the surgical disease exposed by the knife. A naked eye diagnosis is possible in the majority of cases;

3. Unfortunately, a large majority of tumors come to the surgical clinic at a stage when there is no doubt in regard to their malignancy. Operation, of course, is indicated, if operable, but the study of the ultimate results demonstrates that when a malignant tumor has reached the stage in which there is no difficulty in making a clinical diagnosis, the possibilities of a cure are greatly decreased, and in many instances they have become incurable because of local infiltration or internal metastasis. In other words, if we wish to improve the results in the permanent cures

of malignant tumors, we must instruct the public that they must seek the advice of a physician the moment their attention is attracted to a tumor formation. And the practitioner must never delay in advising and urging these patients to submit to immediate operation, except in those cases in which there is absolutely no doubt of the benign character of the tumor. And not only this, but also that the benign tumor in question has no tendency to later become malignant.

The earlier the individual seeks the advice of the physician, and the earlier the tumor comes to the surgeon, the more will the importance and the necessity of the naked-eye recognition of the surgical lesion be demanded by exploratory incision.

4. The study of surgical pathology demonstrates that malignant tumors vary enormously in their malignancy.

NOTE.—All of the points in this introduction were amply illustrated by excellent illustrations taken from the cases at the Johns Hopkins Hospital, and thrown upon the screen by the stereopticon.

THE ESSENTIAL POINTS OF DISTINCTION BETWEEN CEREBRAL AND MENTAL DISEASE.*

HIRAM A. WRIGHT,
Detroit.

An essay having this title would be uncalled for were it not for the fact that too many medical men entertain the idea that when a person becomes insane, some area in the brain cortex is the seat of the difficulty. If it were true that insanity is always, or even occasionally, dependent upon some cortical change, then it would be proper to consider insanity as a symptom, or complex of symptoms, dependent upon the cerebral lesion which induces it. Were this a true premise, then we should logically conclude therefrom that the various types of mental disease, such as melancholia, mania, stupor or paranoia, should be considered as types of cerebral disease, not mental disease.

The question would naturally arise then, what kind of a lesion of the cortex will induce melancholia in one patient,

mania in another, and paranoia in a third? If insanity were dependent upon lesion of the cortex, this question ought to be satisfactorily answered by those who claim that cerebral lesion is necessary to induce insanity. But it is offered as a reply that in many cases there is no organic lesion demonstrable in the brain of one who was manifestly insane during life. In such a case we are asked by some to accept the theory, now being ardently advanced by many neurologists, that defective metabolism, toxæmia, or auto-intoxication, is responsible for the insanity observed. No doubt in some cases these phenomena (toxæmia or auto-intoxication) are associated with insanity, but is it not more reasonable to believe them results of, or concomitants with the insanity, rather than the causes thereof? Particularly so in cases of melancholia or stupor, where the patient, being despondent, and inactive physically, indulges in little or no exercise, frequently has constipation and digestive disturbance. In such cases we

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might naturally expect to find some defective metabolism, or a germ-laden intestinal tract infested by both pathogenic and non-pathogenic organisms.

Those who assert that such bacterial, or toxic agents are etiologic factors in the production of insanity have not observed them until after the patient became insane, not before the insanity became manifest.

If a bacteriologist should make an examination of the blood, or intestinal contents of a person regarded as sane, and should find certain toxic or bacterial products, would he dare make the prediction that because of his findings, the person is therefore liable to become insane? No! but yet many alienists have been free to assert that in some cases these toxins are causes of insanity, rather than concomitant or coincidental phenomena.

There can be no doubt but what toxæmia and bacterial infection of intestinal contents are both quite frequently observed among the insane, perhaps proportionately more frequently than among sane; but this does not by any means establish the truth of the claims put forth that such physical states are causes of insanity; far from it.

What more is the little "bug" going to be accused of? He is responsible for a great many physical diseases which a few years ago were ascribed entirely to other causes; let us not make him responsible for that which in the nature of things he cannot be, if we properly comprehend what mental disease means.

We have dwelt somewhat at length upon this phase of the subject, because it is the latest theory advanced by some recognized alienists and neurologists as a feasible explanation of the cause of some cases of insanity; not because we accept it as true, for we reject it entirely as untenable and wildly speculative.

Toxic blood states at best can but produce delirium. Delirium, however, is not insanity, some writers to the contrary notwithstanding. To consider a little further the subject of organic lesions of the brain in this connection, it must be remembered that about 80 per cent. of all cases of insanity are classified as inorganic psychoses. By this it is meant, no change in the brain is found post-mortem in patients suffering from these types of mental disease, and since we find a considerable proportion of patients suffering from organic diseases of the brain, who during life show no signs of mental derangement, why should we adhere to the opinion that mental disease is therefore dependent upon brain change, organic or otherwise?

Sometimes, it is true, we find in the brain of those who during life were manifestly insane pronounced pathological changes, but this does not prove that the insanity was dependent upon the lesion found in the brain, since that many insane patients manifest very similar symptoms and yet display no evidence of organic brain disease whatsoever upon postmortem examination.

The brain of the insane patient is liable to organic disease just as is the brain of the sane. A person suffering from brain disease is liable sometimes to become insane, just as the person who is free from brain disease. We know these facts to be true, they are not mere trumped-up theories.

As we have said above, more than 80 per cent. of all cases of insanity show no brain disease on post-mortem examination. This being true, what, then, is mental disease? The question can only be answered intelligently by one who has first studied what the normal mind is. Just as the medical student, in order to comprehend the full

significance of certain pathological conditions of the body, is first required to familiarize himself with the normal condition of the several organs of the body, so we deem it proper that in order that a student or a medical man may comprehend what mental disease is, he should first form some definite conception as to what normal mind is.

"The brain is the organ of the mind," is a familiar sentence used by many neurologists to explain the unknown dependence of mind upon brain, but what does the sentence mean? Do we ever hear anyone attempt to explain what they mean by saying "The brain is the organ of the mind?" They surely do not wish us to believe that it is the organ of the mind in the same sense that we believe the liver to be the organ which secretes bile. We choose to explain the relationship between mind and brain by saying the brain is the physical organ, by which intellectual processes are made manifest.

There is a wide distinction between the idea of intellectual processes being dependent upon cortical integrity, and believing that intellectual processes are made manifest by means of nervous activity. Students of medicine who have never studied psychology are accustomed to account for consciousness and intellectual processes incident thereto on physiological grounds. They have neglected to study the very science essential to a proper comprehension of the subject; namely, psychology. One might as well attempt to understand thoroughly the subject of septic infection by absolutely neglecting to study bacteriology, as to undertake a comprehensive study of mental states, normal or abnormal, without psychology; and yet this is the position occupied by nearly every medical man engaged in practice now, for the reason that the subject

is not given sufficient attention in the curriculum of medical schools in general.

The central thought in connection with the whole study of insanity, or even sanity, is the fact that certain beings display that phenomenon known as consciousness. To define consciousness is, to me at present, impossible. The only way we can comprehend its meaning is by the introspective study of psychology, and in this is implied all that is meant by the sentence, "I know, thus and so," not what I believe, but what I know. When we can comprehend what we mean by the "I" in the phrase "I know," then we have made the step in progress necessary to understand what is the seat of consciousness and what constitutes the complete conscious process.

In order that a person be conscious of the existence of objects about him, he must not only be possessed of healthy sensory tracts in his nervous system, but normal intellectual faculties in addition thereto. By this I mean, we must not only see the object, but we must perceive it as well, in order that we may be conscious of its existence. Seeing is a physical sense, perception is an intellectual faculty. They differ from one another, yet one is the complement of the other in a process resulting in consciousness.

Seeing is made possible by nervous activity, and is a physical activity alone. Perception is a metaphysical activity not dependent upon the physical organism for its existence. We cannot define perception in the same way we can define digestion or gravitation, except to say that it is a process incident to consciousness, which occurs in time only, and not in space. Because that perception cannot be defined is no reason why we should discard metaphysics entirely as a proper subject to study, any more than that because

you cannot define light, you should therefore refuse to study physics. Psychology is properly considered a branch of metaphysics, but unfortunately it is taught as being a physical science; and psychical processes are taught as being dependent upon cellular activity. This assertion is unproven, and is but an assumption made by those who cannot disregard the fact of consciousness, yet wish to account for it on physical grounds, rather than be regarded as indulging in metaphysical speculation, "so called." Since that we cannot account for consciousness on a physical basis, nor can we deny the fact of consciousness, how can we, therefore, in the study of conscious processes disregard metaphysics, and be logically consistent as students?

The practical result of this study, in my opinion, will result in the home treatment of a large number of insane patients now

being cared for in institutions. There can be no doubt but what many cases would recover sooner if cared for in their homes under the intelligent direction of the general practitioner than they possibly can when confined with a large number in a large institution. But since medical men are not now interested in the subject sufficiently to devote their time and talents to a critical and analytical study of insanity, there is nothing left for them to do for their insane patients but to have them committed to the asylum, there to be cared for as one of many, not as an individual. This would result in greater good to the patients so cared for, larger financial returns to our already not-too-well-paid profession, and relief to the now over crowded institutions maintained at public expense to care for those for whom home treatment is quite inadequate and impossible.

STANDARDS OF MILK SUPPLIES IN DETROIT AND VARIOUS CITIES.*

GUY L. KIEFER,
Detroit.

A wholesome, clean milk supply and how to obtain it, is a problem that has confronted sanitarians in this and other cities and, in fact, in this country and in foreign countries, for some years. Milk is one of the most common articles of food. It is nutritious, as it contains, in easily digestible form, representatives of all classes of nutrients required by the body. Milk is generally used in the raw state; it is seldom cooked, by which process dangerous bacteria would be destroyed. Impure milk may cause serious

and even fatal diseases. Frequently cow's milk is the only nourishment taken by infants and invalids, and it is these who are least able to withstand the ill effects of impure foods. Vital statistics show that about one-third of all deaths are of infants, and that a very large percentage of these die from diseases of the digestive tract. Again, epidemics of various diseases have been definitely traced to infected milk. These are some few of the reasons why a pure, clean milk supply should be furnished to all communities.

For the purpose of improving the standard of milk, the various state and local

*Read before the Wayne County Medical Society, Dec. 10, 1903.

boards of health throughout the country have been instrumental in passing laws requiring milk to be of a certain chemical standard and free from adulteration by the addition of any preservative or other useless and very often harmful chemical. This "chemical standard," if I may use the term, is practically the same throughout the various cities of the United States and is similar to the standard required in Michigan and in Detroit, viz., the milk to be sold as pure must contain not more than $87\frac{1}{2}$ per cent. of water, nor less than $12\frac{1}{2}$ per cent. of milk solids, of which not less than 3 per cent. shall be fat, and the specific gravity at 60° Fahrenheit shall be between 1,029 and 1,033.

For a number of years sanitarians were content to raise the milk standard as indicated by the above requirements. Milk inspectors were appointed in the various cities, samples of milk were collected from various depots, stores and wagons everywhere throughout the city, and these samples were subsequently analyzed. More or less severe penalties were imposed upon persons found guilty of violating the milk laws. This reform has undoubtedly done much in promoting the public health and in reducing the mortality, because milk that has been watered or is below the "chemical standard" for any reason, is certainly not as nutritious as a richer milk. But, after all, a milk may be rich, may go beyond the legal requirement in its chemical constituents and still be more harmful because of bacteriological contamination than a milk of lower chemical standard. This side of the question is presenting itself more forcibly of late to all students of this subject and considerable work has been done during the past few years along this line. The most systematic and undoubtedly the most success-

ful work has been accomplished in New York City. Under the leadership of Dr. Park, the milk supply of that great metropolis has been raised to a very high standard. The idea of requiring a "bacteriological standard" occurred to Dr. Park almost accidentally. He happened to notice that a number of kittens, fed on milk supplied to a certain hospital, promptly died, although the milk had met the tests of quality and adulteration satisfactorily. An examination of this same milk for the number of bacteria, showed millions in a cubic centimeter. This examination was made with reference to the number only and without reference to the particular kind of germ contained in the milk. It was known to Dr. Park, as it is to all of you, that milk containing specific microorganisms, as for example the bacillus of diphtheria or of typhoid, could be the means of spreading those specific diseases. But the next step in the New York campaign for pure milk was to show that a large number of bacteria, harmless in themselves and when not found in milk, may prove dangerous and harmful when contained in the milk we drink. It was consequently demonstrated by experiments upon kittens that milk thus contaminated is not a proper article of food and these experiments were verified upon the human being by carefully collected reports and statistics based upon infant mortality in New York together with a close study of the milk upon which the babies had been fed. The fact was soon established that milk containing a large number of bacteria is not wholesome; the next problem was, how to remedy the evil. Milk as it comes from the clean udder of a healthy cow is not entirely free from bacteria, it may contain from 400 to 5000 to the c. c. This number, unless it contain the specific

organisms of a given disease, is entirely harmless. The problem, then, is to keep the bacteria from multiplying. This can be done by attention to two things; firstly, by cleanliness in handling and secondly, by a process of rapid cooling of the milk and keeping it cool. In New York a commission of physicians was organized to co-operate with the Board of Health. This commission is known as the "Milk Commission of the Medical Society of the County of New York." It has brought about a wonderful change in the milk supply of New York by its work. The commission in turn has secured the co-operation of the milk dealers by agreeing to certify to milk that is of a certain standard of quality and cleanliness. Milk in order to be labeled "Certified by the Milk Commission of the Medical Society of the County of New York" must not contain more than 30,000 bacteria to the c. c., and this means that the milk must be handled from the cow to the consumer in the most scrupulously clean manner, and it must be cooled quickly after milking and must be kept cool. The commission also guarantees a second grade of milk, and this second grade is labeled as "inspected by the Milk Commission of the Medical Society of the County of New York." The commission's requirements for inspected milk are not so rigid as for the "certified," but they are nevertheless rigid as they require that inspected milk shall not contain more than 50,000 bacteria to the c. c., and that means a very careful handling of the milk. It is understood, of course, that in each case the milk must be of the legal chemical standard.

Inasmuch as such great advances have been made in the large city of New York, other cities are following her example. In Philadelphia similar work is being

done, milk being certified by the milk commission of the Philadelphia Pediatric Society. In order to receive the guaranty of this society they require that milk shall contain no more than 10,000 bacteria to the c. c.

In Boston the same end is accomplished by strict laws requiring proper feeding of the cows, proper keeping of the same and proper handling of the milk. As the number of bacteria is only a means of detecting how the milk is handled, it makes little difference at which end we put our restriction. A law that requires bacteriologically clean milk is the same in effect as one that requires healthy and cleanly kept cows, clean stables, clean milkers, clean utensils and proper cooling of the milk.

This question is being rapidly taken up all over the United States. In various cities bacteriologists are at work making examinations of the bacteriological pollution of the milk supply. The results of these examinations are astounding. Sedgwick in Boston found an average of 2,300,000 per c. c. in the market milk of that city in the spring of the year; Bassett found the average in Baltimore to be 4,000,000, while in Buffalo, Snow reports from 1,000,000 to 4,000,000 per c. c., grocer's milk being the worst. Again Coler says that samples of milk collected in the City of Rochester showed from 100,000 to 1,500,000 bacteria per c. c.

In European cities in general the number of bacteria is very much higher than in American cities, judging by the above named cities as examples. In a few cases in the European examinations the milk was found to contain less than 5,000,000 bacteria per c. c. In many cases the bacteria contents reached 10,000,000 and not infrequently 20,000,000, and in some

samples in the city of Giessen the numbers ran up to 180,000,000.

In Detroit the bacteriological examination of milk was begun in the summer of 1902. Our samples have varied from 11,000 to 8,000,000, and in one sample we found 16,000,000. The samples containing the smallest number were taken from milk sent in from the country and collected at the station immediately upon its arrival. It has been our endeavor whenever we have found badly polluted milk to correct the evil by a personal call on the part of the inspector at the particular dairy with a view to tracing the sources of contamination. It is the intention of the Board of Health to adopt more rigid rules to bring about a more careful handling of the milk that is supplied to

our citizens. In just what manner this result is to be accomplished has not been decided—for the present we are requiring all milk dealers to obey the laws as far as the "chemical standard" of the milk is concerned, and if a discussion of this subject has the effect of bringing about a demand for a cleaner milk supply, it will be the easier for the Board of Health to bring about the desired result. What is needed is the support and co-operation of the medical profession, the milk dealers and the public. If the doctors will aid in teaching their patients that better milk costs more because of the extra care needed to produce it and that it is worth all that it costs, then dairymen and dealers will produce a better article because the demand for such will have been established.

MILK IN ITS PATHOLOGICAL RELATIONS.*

GEORGE DUFFIELD,
Detroit.

Vital statistics show that about one-third of all deaths are of infants, and that a very large percentage of these die from diseases of the digestive tract. These diseases are said to be principally due to impure food; it is, therefore, reasonable to assert that the great mortality of infants has a close relationship to the condition of the milk supply.

In certain cities where earnest efforts have been made to improve the milk supply, the mortality of infants has been greatly reduced.

Milk may look the same, whether it contains 200 or 500,000 bacteria to the cubic centimetre.

Unlike other foods, milk is used in a

raw state. It is seldom treated to a heat strong enough to destroy dangerous bacteria with which it is too often contaminated.

The fact that many infants are taken from their mother's breast and put on ordinary cow's milk, such as is sold at the corner grocery, or from some milk carts that are unsanitary, and whose milk is alive with bacteria, the result is evident, the death of such children.

The number of bacteria in milk depends upon three conditions:

1. Cleanliness in handling.
2. Temperature to which it is cooled within one hour or less after milking.
3. The age of the milk.

One exhibit will suffice to show the bacterial content of milk.

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Experiment reported by the New York Health Department.

"A sample of milk taken under good conditions contained, immediately after milking, 300 bacteria to the drop. It was cooled to 45° F., and kept at this temperature; after 24 hours it contained 200 bacteria to each drop; after 48 hours 900; after 72 hours 150,000.

"Another sample taken in a dirty barn, cooled and kept at 52° F. contained at first 2,000 bacteria in each drop; in 24 hours 6,000; in 48 hours, 245,000; in 72 hours, 16,500,000."

The ability of milk to resist the growth of bacteria, when kept at 38° to 45° is indicated by these experiments; freezing the milk renders the milk unfit for food.

Odors and peculiar flavors of milk are due to bacterial action or to volatile oils of some foods, such as onions, turnips and garlic.

The number of bacteria in cream is nearly always far greater than in milk—the thicker the cream, the older it is and the greater the bacterial growth.

Freeman, whom I have quoted before, claims that the bacteria of cream were 300 times as numerous as in the milk left behind, the bacteria evidently being carried up with the fat globules.

Centrifugal cream is to be preferred, as it can be marketed twenty-four hours earlier than gravity cream.

The micro-organisms of milk:—Most of the common bacteria grow readily in milk. There is no better culture medium made in Nature's laboratory for the development of bacteria than cow's milk.

The micro-organisms may come from

I. Disease in the cow.

The udder may be the seat of an inflammation with streptococci or other pyogenic bacteria present. These enter the

milk in large numbers and are often the cause of attacks of gastro-enteritis. Tuberculosis in the cow does not always mean tubercle bacilli in the milk, unless the udder itself is the seat of the disease. But from a scientific standpoint milk must be regarded as one of the possible sources of tuberculous infection, and all precautions must be taken to prevent its sale and use.

Out-breaks of disease have been definitely traced to infected milk. We are growing wiser each day we live, and we should appreciate the danger of milk and the ease by which contagious diseases are spread by this article of food.

In January, 1900 (but three years ago) Kober, in the *Amer. Journal of the Medical Sciences* (May, 1901) collected records of 330 outbreaks which were spread by milk. There were 195 out-breaks of typhoid fever; in 145 instances the disease prevailed at the dairy; in 67 the milk was diluted with infected well water; in seven the cows waded in and drank polluted water; in 24 cases the employees, the milkers and dairy attendants acted as nurses to typhoid cases, and in 10, employees continued to work although they themselves were suffering from the disease. The utensils about the dairy, such as pans, bottles and strainers, were washed with polluted well water.

On the 99 epidemics of scarlet fever, there was disease at the farm or dairy in 68; 17 employees were themselves affected, and 10 employees acted as nurses to 56 patients.

Of the 36 out-breaks of diphtheria studied, the disease was at the farm or dairy in 13; three employees themselves were ill, and in 12 the cows were suffering from inflammation of the udder.

Other bacteria found in milk may come from

2. *The air of the stable.*
3. *The hands and clothing of the milker.*
4. *From the dirt that falls into the milk from the udder, belly and tail of the cow.*
5. *From the manure of the cow either in the stall or dried particles in the air.*

A petri-gelatine plate exposed beneath a cow's udder for one minute during milking in an unsanitary barn—and there are many such—contained 4,450 colonies of bacteria.

There are other forms of bacteria in milk, while not strictly speaking pathogenic, but when present in milk in large numbers so change and impair the nutritive properties as to render it unfit for food and in young children and infants may cause serious intestinal complications. These are:

1. Those that cause the souring of milk—the lactic-acid producing group—which act upon the milk sugar.
2. Those that act upon the milk pro-

teids, inducing fermentation and putrefactive changes.

3. Those that cause coagulation of the casein and subsequent peptonization of the coagulum.

There should be a bacteriological standard. We have heard that our health officer has demanded that the milk sold in Detroit should contain no more than 100,000 bacteria to the cubic centimetre. Let us, as medical men, impress upon him and upon our milk inspectors that milk sold in cans shall contain no more than 100,000 to each c. c., while bottled milk shall contain under 30,000 per c. c.

The health officer of Rochester, N. Y., supplied milk with a daily average of not more than 14,000 bacteria to one c. c., while the milk from the farmers, as sold from the cans and the wagons, contained 235,000 per c. c.

Let us demand purer milk and by appointing a milk commission, let us educate the public to demand clean milk.

HOT SPRINGS, ARKANSAS, FOR CHRONIC RHEUMATISM.

WILLIAM F. BERNART,
Hot Springs, Ark.

The problem of the detrimental influence of the cold blasts of the North upon rheumatic subjects confronts all physicians in practicing in localities subject to sudden and rigorous changes in weather. The convalescents from acute attacks are frequently relegated to the category of chronic rheumatics by this uncontrollable medium, where otherwise, had climatic conditions been favorable, the case would have progressed to a favorable end. The interference with elimination, a matter so essential in all cases of true chronic rheumatism, the necessity of a more stringent medical treatment to combat the baneful

influence of the retrogression caused by unfavorable climatic conditions, are factors inimical to a rapid or final cure. Upon this basis, I do not hesitate to advocate this resort as admirably equipped for the welfare of rheumatic patients during the wintry weather of the North.

From a climatic standpoint, Hot Springs of Arkansas compares favorably during the winter months with other southern cities, the average temperature being but slightly lower than at New Orleans; besides the patients have the advantage of the eliminating waters which exert the greatest beneficial influence in all

varieties of chronic rheumatism. With an elevation of 1,000 feet above sea level, perfect drainage, a fresh and wholesome atmosphere free from smoke and obnoxious odors from factories, there is nothing lacking to fully comply with all requisites of an ideal health resort.

Before confining my remarks to the advantages of treatment at this place, a few words upon the position of resort practitioners and the meaning of "chronic rheumatism," will not come amiss. The physician's duty at any of nature's health resorts lies first in the recognition and study of the natural resources; secondly, in their application to the various cases; and, thirdly, in the inauguration of the treatment that will be productive of the best results. In the study of the natural resources and their application, the resort practitioner stands alone; but in the therapeutic treatment, the history of the case and experience of the home practitioner are factors of inestimable value to the resort physician and the welfare of the patient. Few physicians refer a patient to a surgeon for operation without the addition of a concise history, yet many doctors allow their patients to cross the continent in search of health and never think that a full history of the case would be of value; if there is a difference, it is a difference without a distinction for the ultimate end, the welfare of the patient, is the same in both cases. To advance this recognition between home and resort practitioners I formulated a few rules (*Journal A. M. A.*, Vol. XLI, No. 13, page 795) which, if followed, would unquestionably be of value to our invalids, among whom chronic rheumatics constitute no small percentage.

The term chronic rheumatism, as popularly used by the laity, is permissible,

but to the physician it ought to imply more than a long continued painful condition. The convenience of the term, the ease of its application, the knowledge it conveys to our patients often causes us to neglect a more careful scrutiny of the etiological factors. The frequency of flat-footedness, relaxation after injuries, germ infection, syphilis, metallic poisoning, occupation neurosis, and sequelæ to some infectious diseases, producing symptoms many times erroneously called chronic rheumatism, should incite us to exert greater care in our diagnosis, for the success of our treatment is based entirely upon our accuracy in recognizing the pathological changes and the cause thereof. After a perfect recognition of the existing conditions in certain cases and a trial of the indicated treatment, there comes a period when the indifferent results obtained or backsliding of the case demands a search for other resources and in what is to follow I will attempt to place before the readers of this article a general outline of the therapeutic action of these waters when combined with a judicious medicinal and mechanical treatment.

Acknowledging the case to be one of true rheumatism, unaffected or made worse by treatment applicable to home use, influenced by a severe and changeable climate, with prominent symptoms of disturbed digestion and circulation, pain, anæmia, and debility, we have a picture that will serve the purpose of a test case. Upon his arrival, the first impression is of a metropolitan city where all things are arranged for the convenience of the invalid, the inhalation of a balmy and fresh atmosphere and, in a short time, the realization that he is not alone in his affliction but that thousands of other human beings are with him in the search for health,

many of them on the way to recovery after having been in even worse condition than himself, all tend toward an ease of mind and resolution to get well. These two conditions recognized as valuable adjuvants by all physicians, are a **natural sequence** and pave a smooth way for the more difficult work of the doctor.

After a sufficient rest, a thorough examination is given the patient, including an examination of the urine in all cases and of the blood if necessary; besides this, a matter of no small importance is a memorandum of the correct weight. The temperature, condition of the heart, arteries and lungs, the general strength of the patient and the existence of localized points of inflammation often produced by traveling, are important in indicating the treatment. Oftentimes a great amount of harm is done providing certain details are neglected at the start. All conditions being favorable, the patient is usually placed for the first few days upon a system of bathing that will stimulate the activity of the skin and circulation, after this the elimination is carried to any desired degree. The diet and habits of the case are regulated at the very start, future changes being made as required. The judicious drinking of water is of as much importance as the baths. People unaccustomed to the injection of large quantities of fluid, and especially hot water, require the most

careful instructions or otherwise disagreeable effects are liable to follow. The prescribing of various douches and **packs are** of inestimable value; ~~in chosen~~ cases the ~~physician's~~ better judgment, however, must control these procedures; the same can be said about massage. In the medicinal treatment, the greatest care must prevail, for drugs formerly inefficient may under the influence of these waters produce the desired results. In some cases a thorough eliminative course is advisable and advantageous before any medicine is given, others are placed immediately upon a vigorous anti-rheumatic treatment, while in some cases a strict tonic treatment is indicated. Internal treatment must often be supplemented with, or displaced by, external applications or subdermal medication. Operative procedures are at times indicated, but as the patient comes here to test nature's resources, their co-operation is hard to gain and even the argument of the beneficial influence of the waters during convalescence from the operation, is as a rule insufficient to gain their consent.

After all is considered, it can be safely stated that the key note of success lies in the stimulation of absorption and elimination and the establishing of a proper ratio between the two, combined with a proper medicinal and mechanical treatment.

Diagnosis of Typhoid Fever in Its Earliest Stages.—(1) The earliest and most trustworthy sign is the presence of the typhoid organism in the circulating blood.

(2) The typhoid bacillus is found in the feces later than in the blood.

(3) The bacillus typhosus is also found in

the rose spots. Its presence here is a trustworthy sign.

(4) You can seldom obtain the Widal reaction in the earliest stages of the fever. It is only of value in the higher dilutions.—(*The Amer. Jour. of the Med. Sciences*, Jan., 1904, William Colby Rucker, M. D.)

THE CAUSE AND TREATMENT OF
MORPHINE INEBRIETY.*W. M. DONALD,
Detroit.

Computation founded on fairly good evidence gives the number of morphine inebriates in the United States at one hundred thousand. The figures seem alarming, and yet I think are quite within the mark. It would seem, moreover, as if the number were increasing rather than decreasing. Such a condition argues strongly for the vast importance of this subject.

A short time ago the well known novelist, Kipling, in addressing a society of medical men in England, made the statement, which, at that time, was looked upon with some incredulity and not a little surprise, that the ordinary Oriental took his opium as the ordinary Occidental took his tobacco or beer. He stated that, from his own observation in India, the coolies or Hindoos carried opium in the form of pills or pellets around with them, and when weary from labor or loss of sleep, indulged in some small dose of the crude opium. The effect, as far as observable, was exactly the same as the effect upon the Occidental from the use of a pipeful of tobacco or a chew of the same luscious weed—soothing nervous irritability, allaying mental excitement, stimulating muscular effort.

A coolie might take one or several opium pills in a day, or possibly none at all. But as a rule, he took his opium exactly the same as the American navy took his pipeful of tobacco, with regularity and without apparent injury, and without the production of an excessive appetite.

He put it tersely this way: That what tobacco and alcohol was to the Occidental, opium was to the Oriental. And he elaborated at further length the fact that millions of Orientals use the extract of the poppy regularly, systematically, and without any apparent detriment to health.

These facts adduced by Mr. Kipling at the time have been substantiated since by other observers, and are believed to be strictly in accordance with the truth.

For some unexplained reason the ordinary Occidental, while able to indulge with moderation in both alcohol in its milder forms and in tobacco, without allowing himself to run to any extreme in the matter, or without becoming a pronounced victim of either habit, is quite unable to follow the same system in the use of opium.

Any denizen of the western countries who commences to indulge in opium or in any of its preparations in moderation, all too soon becomes a victim of the insatiable desire for larger quantities of the drug, and all too soon an inebriate and a wreck.

The most pronounced and most potent etiological factors in the production of morphine inebriety, may be put down as pain—physical or mental, real or fancied—and insomnia.

Once in my own life have I received a hypodermic injection of morphine. It was given to allay a most excruciating abdominal pain, and its effect was instantaneous. Never shall I forget the relief that came; one moment being a sufferer from the most intense agony, and the next, experiencing a sense of complete comfort and

*Read before The Wayne County Medical Society, Nov. 12, 1903.

relief from pain, with a feeling of super-added, delicious languor stealing over me.

I have often thought of my experience at that time, although it happened years ago, and have been guided by it to a sense of the vast danger hovering around a person suffering from some painful malady, who is fortunate or unfortunate enough to have a complaisant physician of a tender heart, all too ready to relieve pain by this fatal, yet all potent, method.

And I wish to state here in this connection that, in my experience, physicians are responsible for a large majority of cases of morphine inebriety in the world today.

Of the last four patients that I have treated for this disease two of them were physicians, and one was a physician's daughter and a physician's sister. The physician's daughter had acquired the disease through the administration of the drug by a physician for severe ovarian pain. He had dispensed it to her at first himself, but becoming careless, had permitted her to obtain it from the drug store, where she very quickly obtained a knowledge of the true nature of the prescription, and very shortly became a regular habitue of the drug. The two physicians acquired the habit in their student days. One of them broke away from it for a time, but becoming infected with a low form of malaria, with its consequent depression, he shortly returned to the use of the drug for its stimulating effect. This, I may say, was before he came under my observation and under my care. Both of these men, learning something of the stimulating effects of the drug at college, and finding little effect from the use of alcohol, had resorted to it to stimulate during a hard college course. These two cases would suggest another point of etiological importance, viz., the great frequency with

which physicians are becoming victims of the morphine habit.

The fourth patient of whom I speak was a lady who also suffered from a severe painful affection, and was cared for by a careless physician, who quickly allowed her to obtain a knowledge of the drug she was taking for the relief of her pain, and very quickly permitted her to resort to the drug, to the extent of habituation.

I mention these simply as proofs of the statements I made before, that physicians were responsible for a large majority of the cases of drug addictions today.

In my own practice, where I find it necessary to give opium or its salts, I have made it a rule to, as much as possible, dispense the drug myself. Only under most extraordinary circumstances do I ever allow the prescription for morphine or opium to go to a drug store, where there is always danger of the patient coming in and having the prescription repeated.

Even when I give hypodermic injections for the relief of pain, I make it a rule to instruct my patient that the injection I am giving him contains not only opium but other drugs as well, so that he will not come to a belief that the whole relief has come from opium alone.

It seems to me that with greater care in this matter, the possibilities for the prevention of the habit in the use of these drugs for the relief of pain would be greatly increased.

I think it is impossible for us to get along in the practice of medicine and the treatment of patients without the use of opium. But I do think that, with a proper knowledge of the dangers incurred in its use, and with proper care for the prevention of the knowledge of the drug used coming to the patient, that it would be

possible to eliminate largely this etiological factor.

In my lectures to third-year students, I make it a rule, that is given to them with insistence, that morphine or its congeners, while all potent and invaluable as a remedy, is one of the most dangerous drugs in our Armamentarium. I have always felt that, with insistence upon this point, with a young physician in the formative stage of his career, our hopes for inducing greater care in the prescribing of the drug and the use of it are vastly increased.

This is a subject that comes home to each of us with special and increasing force, and I know that if I felt I were responsible for the production of morphine habituation in a single patient of mine it would be a reflection to me always upon my career, and would be a burden for me to carry for the rest of my life.

I insist upon this point, for it seems to me of the vastest importance.

Another etiological factor in the production of morphine addiction is, as I have said, the use of the drug for insomnia. In this regard I do not believe that physicians are to blame, for I believe that few physicians use morphine for the relief of sleeplessness, except sleeplessness caused by pain. But patients driven to distraction by continued loss of sleep are prone to take anything that comes handy for the relief of the distressing affliction, and finding morphine available and more or less potent, not infrequently acquire the drug habit through such means and without the intervention of a physician.

In this case, only by insisting upon the dangers incidental to the drug so that the public may become thoroughly cognizant of it, can we eliminate this factor.

There are other classes of people in danger of the habit—the neurotics, of

which America is so lamentably full today—and the idle rich, of whom America is producing now more than her share. These two acquire the drug of their own volition—the neurotics to seek the stimulation which will permit them to accomplish duties all too trying for them, and to carry burdens all too heavy for them; and the idle rich, looking for new pleasures and new methods of eliminating ennui.

For these again physicians can do little beyond spreading knowledge of the dangers of the drug.

I might add another class of habitues, namely, that impressionable class stimulated by the reading of sensational literature, such as "DeQuincey's Confessions of an English Opium Eater," etc. This is a small class and deserves little notice.

Leaving, now, the cause of morphine inebriety, with this somewhat lengthy but all insufficient discussion of the etiological factors, we come to a discussion of the treatment of this disease. The treatments might well be called legion, for their name is many. The genuine cures, on the other hand, might, to use a slang phrase, "be almost put in your eye." I wish to go on record here (and in this regard I believe I am in accord with some of the best authorities) that in this disease the hope of a radical cure is based upon an exceedingly poor foundation. We can stop the use of the drug temporarily; we can put our patients in fairly good physical condition; but with them always lingers the remembrance of ease from pain, and the memory of the delicious narcosis, and the soothing and quieting influence of the drug, when they were suffering, or worried, or weary, or ill. Then all too soon comes a return to the use of the drug.

Here is a sample of a letter received

from one of my last patients—a physician—a strong, robust, vigorous man originally, who came to me voluntarily for treatment. He was cured of the habit with some little suffering incident to the cure, and is now taking up another business, his old business, viz., that of commercial traveler. He hates the habit as the devil is proverbially believed to hate holy water. He loathes it, and loathes the victims of it, and loathes himself for being a victim of it, and yet his words speak of the dangers of the recurrence even to a person in that mental condition. I will read you an extract from the letter and let it speak for itself:

“There is a certain well-known fact stored away in one’s consciousness, and that is the fact that the old drug can give one such a self-confident, well-satisfied feeling with himself; and a contentment for a time even with an otherwise miserable existence.”

In treatment, the first indication is that of prevention, to which I have alluded in discussing the etiology of this disease. Once again I wish to insist upon this truth, that physicians should teach themselves, and each other, and the public, that morphine is always a dangerous drug, and should never be used except on the advice of a physician. That physicians are so prone to the habit would indicate that they, with their familiarity with the drug, have grown careless and deem that they, at least, are able to refrain from its abuse, and hence that the necessity for care in its use has gone by. Their failure to avoid the deadly habit argues their human fallibility, even as that of other men. No longer can they raise their heads, as did the old Pharisee, and cry: “God, I thank Thee that I am not as other men.”

However, our patients come to us, vic-

tims of addiction. We have four courses open to us:

(a) The treatment by the sudden withdrawal, where the patient has the drug entirely withdrawn inside of a day or two—the so-called Levinstein method.

(b) The slow method, where it is withdrawn in fractional doses day after day until four to six weeks have elapsed before the last dose is administered.

(c) The substitution method, where other drugs, such as hyocine, chloral, atropia, etc., are given to take the place of morphine, and

(d) The rapid-gradual method of Erlenmeyer, where the drug is withdrawn rapidly and yet gradually, taking but a week or ten days to withdraw it entirely.

Of these methods, Levinstein’s is, in my opinion, a cruel and unsafe one. The intense suffering and the collapse, so often accompanying treatment by this method, debar the scientific physician from its use.

The slow method is too slow, and the ordinary patient drops out from our care before the last dose is administered, only to relapse in a very short time.

The substitution method offers, to my mind, little advantages over the continued use of morphine.

It is true that hyocine seems to have a very happy effect in the treatment of insomnia, so often accompanying the withdrawal of opium, and its use may be recommended in that capacity, but as a substitution treatment, other observers to the contrary notwithstanding, I have little faith in it.

The rapid-gradual method of Erlenmeyer is, except in extraordinary cases, my invariable choice. To treat a patient in this way, it is absolutely necessary, I believe, to have him in a suitably equipped hospital. Home treatment is useless.

Kind friends, or complaisant visitors, enable the patient to secure the drug without any difficulty, and the physician's efforts go for naught.

With Erlenmeyer's method, the patient is put into a room in a hospital, his clothing removed from him. He is confined to bed absolutely, and is not allowed to rise except upon the most urgent occasions. The morphine balance, so called, is established—that is, we find out within twenty-four hours just how much of the drug is necessary to keep the patient in a fairly comfortable condition. Since he is in bed, and exercising his muscles but little or not at all, we can reduce the drug to the minimum quantity necessary for the comfort of the patient, and we often find that the minimum quantity that will give him comfort is about one-half of the amount that he tells us he has been in the habit of taking before his entrance into the hospital.

The drug is then given in four or five divided doses during the day, and is reduced in accordance with the ability of the patient to stand it—in my own experience, averaging about half a grain a day. Little medicine is given except to treat symptoms. As a rule, I order *nux vomica* or strychnine for its tonic effect, and hot baths for their sedative effect; massage to the limbs and the back and spine relieves the intense aching, consequent upon this treatment, and the patient is fed as vigorously as possible. Occasionally, lavage is

used to wash out the morphine excreted by the stomach, and to neutralize the hyperacidity so common in withdrawal of this drug. Upon rest in bed, however, moderate doses of *nux vomica*, hot baths, and gavage or forced feeding I depend in the treatment of my patients. It is better always, of course, that a special nurse should be in attendance, so as to exclude the possibility of any of the drug reaching the patient, and the calls of visitors are, of course, for the same reason, inadmissible.

Ten days suffice, as a rule, to get the patient to the abstinence point, and four to six weeks afterwards is assigned as the time necessary to build up the shattered nervous system and to restore the depraved body cells.

I warn my patients always that it will take at least six weeks' stay in the hospital to put them in fair shape, and if they can give me eight weeks so much the better. At the end of about two weeks, if things progress satisfactorily, they are allowed to sit up in the room, and, if I feel that I can trust them, inside of a week or so longer they are allowed to get out of doors and go for a walk, preferably with a guardian, nurse, or reliable friend.

This treatment has given me decidedly the best results, and it is the one upon which I depend always in the treatment of morphine inebriates. Details, of course, must be handled as they arise in each individual patient.

The essential process of most of the erythemas (les erythèmes of the French) is a vascular change with exudate; blood, serum, alone or combined. While they are usually described as separate diseases, they belong to one family. They are characterized by:

(1) The similarity of the conditions under which they occur.

(2) The frequency with which the lesions are substituted in the same patient at different times.

(3) The tendency to recurrence, often through a long period of years.

(4) The identity of the visceral manifestations:

(a) Augioneurotic, as swellings of the fauces, changes in mucous membrane, causing colic, asthma.

(b) Inflammatory, as nephritis, pneumonia, etc.

(*The Amer. Jour. of the Med. Sciences*, Jan., 194, William Osler.)

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Editor A. P. Biddle, 57 Fort Street West, Detroit, Mich.

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FEBRUARY, 1904

Editorial

A slight change in the arrangement of the columns in the original articles will be noticed in this issue of the JOURNAL. This alteration is made in order that reprints of original articles may be furnished without the necessity of resetting the type, thus insuring a saving of about 30 per cent. in the cost of the former to our contributors.

Hereafter reprints will have the same paging as the original articles, permitting of quotations alike from the journal or reprint, a convenience long appreciated by those using references from foreign journals following this method.

PRELIMINARY ANNOUNCEMENT OF ANNUAL MEETING.

On December 29, 1903, the Committee on Scientific Work of the State Society, composed of the President and the Secretary and the Officers of the Sections of the State Society, held a meeting at Ann Arbor to prepare the program for the Scientific Work of the Society at the Annual Meeting, May 25th, 26th and 27th, at Grand Rapids. A formal call for voluntary papers is made on page 61 of this issue. To give the Secretary of the Section sufficient time to make personal solicitation for papers in case enough are not otherwise received to fill the work of his Section a time limit for the recep-

tion of voluntary papers must be fixed. This date is fixed at *March 10th*. The By-Laws of the State Society require that the program shall be published 30 days in advance of the Annual Meeting, so that all papers must be in the hands of the Editor by April 10th.

Every member desiring to read a paper at the Annual Meeting will please send the title of his paper to the Secretary of the Section before which he wishes to read the same as soon as possible, not *later than March 10th*. See announcement on page 61 of this number of the JOURNAL.

A METHOD OF PROMOTING MEDICAL ORGANIZATION.

Practically all opposition or indifference to medical organization springs from a failure to understand the proposition. The proof of this is that both indifference and opposition vanish with a full comprehension thereof. Logically, the only way to secure a prosperous organization is a persistent presentation of the proposition, both in private and public. Every year there are many fresh arrivals in each county who need to be posted in the principles of medical organization, that they may fill the places of those who have died, emigrated, or been crippled by disease. Only such as have kept close watch realize how numerous are these changes. They emphasize the necessity of organizing individuals constantly. All this might be expected from the nature of organization as a living process.

It follows that the promoters of Branch and State organization must never cease activity—their work will never be finished.

Few really comprehend that membership does away with the red tape formerly

necessary to become a member of the State Society. They forget that the attempt was formerly made to separate the sheep from the goats at the annual meeting; now this is done by those knowing the parties in the local society, those upon whom it places the stamp of approval are by that fact members of the State Society. No more is there a long blank to fill out with one's medical pedigree endorsed by two old members of the State society; no more does the treasurer demand five dollars from each new member and three from every old one; no more is there a voting on the applicants by the entire body. In place of the five dollars, only two are now asked, and but two from each old member; or a saving of three dollars to each new member and one to each old one yearly. Every member of a Branch has equal rights with any other at the coming meeting at Grand Rapids—by showing that his dues are paid in his Branch—all the intellectual, and social and political privileges of the body are his. Thus it is evident that time, trouble, and money are saved members by the present arrangement over its predecessors.

This is only one of the many things illy understood or easily overlooked by members, unknown by outsiders.

The value of the *Journal* over the old *Transactions*, is conceded, but it might be vastly enhanced if it were better understood and members knew how to help themselves by helping it.

It is granted that this vast organization is capable of improvement, but even as it is now it has done immense good to all, with greater promise in the future.

Our point is that, to those who from a narrow horizon are unable to see the advantage of the organization, it is given to apply for light from the officials of their

local society or any active member therein, or to the councilor of their district or any other official. In turn it is for these officials to seek out the indifferent and fill them with the good things of organization.

NOVEL TREATMENT FOR GONORRHOEA.

Since the revival by Janet of the irrigation treatment for acute and subacute gonorrhœa, especially since the early users of this method were so enthusiastic in their praises, other methods have rather fallen into disrepute. The claims made for the irrigation treatment by the enthusiasts have never been verified by the more casual user. It is, therefore, something of a relief to have brought to our attention other methods for treating this common but peculiarly resistant disease. Two methods lately advanced have at least the advantage of novelty, and will doubtless prove effective at least in a certain proportion of cases.

Whitehead¹ claims the gonococci reside not in the cells of the mucous membrane but in the mucous plugs in the sulci and crypts of the urethral mucosa; and that to free the germs from their surroundings a process of digestion is necessary, and then germicides can have a chance to act. He accordingly has advised a salve made up of yellow oxide of mercury, oleic acid, oxide of silver, powdered scale pepsin, powdered caroid, alboline, lanolin, and water. One half drachm of this he instills into the urethra behind what he conceives the probable seat of inflammation. A little cotton applied to the meatus holds the ointment in place in the urethra. This application is made twice a day by the surgeon himself for six days. The treatment is painless and is

said to stop discharge in two or three days. Internal treatment with sandal oil, powdered cubebs, benzoic acid, powdered pepsin is also used. This medication is continued ten days after the local treatment is stopped. In case the discharge returns he occasionally has to give another course of twelve applications before the urine clears up completely.

Klotz² on the other hand has conceived the idea that "the mucous membranes showed much less irritation, subjective and objective, when such solutions were allowed to flow through the urethra in a retrograde direction, namely, from bulbus to the meatus, than when administered in the contrary direction." Hence his treatment based on this idea consists in the use of 3 c.c. of a silver solution of a strength, if of the nitrate, from $\frac{1}{8}\%$ to 2%, if of the organic forms, its equivalent, injected from a conical pointed syringe, the tip of which is inserted below the seat of inflammation. The solution is allowed to slowly ooze out from the meatus. In a few minutes a second application with this, or if the smarting is not great, with a somewhat stronger solution is made. The syringe used is similar to the Braun intrauterine syringe except the conical point is added.

Such a solution is used in its weakest form in the earliest stages of acute gonorrhœa. In fact he prefers to see patients at the earliest moment, for with these he gets his best results. The application is made once in two or three days and in the interval the patient uses an astringent injection from a small syringe several times a day.

On the morning after the silver application the discharge is thick and cheesy and much diminished in quantity. After a few days the discharge is seen to increase and at this time another treatment is

made. Under ordinary circumstances few applications are necessary to effect a permanent cure.

The use of silver nitrate in the acute forms of gonorrhœa dates back some years, but in 1894 Von Sehlen especially called attention to the fact that gonorrhœa could be cured in direct proportion to the time since infection had taken place. For this cure he used silver nitrate in the strength of 1-1000 with a small syringe and later retrograde irrigations with a catheter. It will thus be seen that Klotz has simply modified Von Sehlen's method of ten years ago, using the retrograde injection from the start. With the known germicidal power of the silver salts on the gonococcus, and this improvement in the technique in its application, it would seem as though this method presented possibilities worthy a little more than passing knowledge, and a thorough trial before it is condemned.

¹W. H. Whitehead, *Therapeutic Gazette*, 1903.

²Hermann G. Klotz, *New York Medical Journal*, 1903.

HARRISON D. JENKS.

NEWS ITEM.

Wexford and Missaukee County Medical Societies held a joint meeting January 13, 1904, at Cadillac.

The second meeting of the medical societies of Kent, Ottawa and Ionia Counties was held at Holland, January 15, 1904. A banquet was served at the Holland House in the evening.

HEALTH IN MICHIGAN.

For the month of December, 1903, compared with the average for December in the 10 years 1893-1902, inflammation of kidney, typhoid fever, scarlet fever, smallpox, meningitis, cholera infantum were more than usually prevalent; and diarrhœa, erysipelas, intermittent fever, inflammation of bowels, measles, remittent fever, whooping cough, inflammation of brain, puerperal fever and cholera morbus were less than usually prevalent.

County Society News.

BARRY COUNTY.

THE OPERATIVE INCISION.*

S. C. GRAVES, GRAND RAPIDS.

A. Preliminary discussion.

1. Preparation of instruments, dressings, sutures, ligatures, sponges, etc.

(a) Instruments—Sterilized by boiling a few minutes in water which contains a little sodium carbonate.

(b) Dressings and Sponges—Sterilized by steam.

(c) Some sutures and ligature materials come from the manufacturers quite sterile. Silk, silk-worm gut and horse hair are sterilized by boiling in plain water. Silver wire is best sterilized by passing the same through an alcohol flame.

2. Preparation of Patient—Patients should be prepared generally and locally.

(a) Generally—Baths, douches, free catharsis, inhibition of much drinking water, light diet, etc., are important especially prior to severe operations.

(b) Locally—The mechanical factor is the all important one. Therefore scrubbing, shaving and scrubbing again do much for our patients. Douching with ether, bichloride of mercury and alcohol add to the security of the matter and should be employed. An aseptic dressing should be maintained on the parts for 24 hours prior to the operation.

3. Preparation of the Surgeon.

(a) Sterilization of the operator's hands and those of his assistants should be accomplished by processes similar to those employed in preparing the patient's parts.

(b) Use of rubber gloves properly sterilized.

(c) Use of cotton gloves properly sterilized.

(d) Use of gowns, head covers, nose and mouth masks.

B. Operative incision.

1. How made:

(a) Make your incision so as to cause the least possible damage to the tissues.

(b) Split muscular fibres in preference to cutting them transversely.

(c) Follow line of natural creases and wrinkles.

(d) Lose as little of patient's blood as possible by use of clamps and ligatures.

(e) Cut the tissues cleanly with cutting edge of knife (not the point) rather than haggle them.

(f) Operate with that degree of speed which lies near the point midway between the brilliant pass and the tardy one.

2. How closed:

(a) The tissues should be left as nearly as possible in the condition of normality.

(b) Drain when necessary.

(c) Before incisions are closed, they should be dry.

(d) Individual structures should be accurately and gently brought together by absorbable sutures.

(e) Tissues should not be choked by tight suturing.

(f) The less important structures can be reunited by material which is absorbed in a few days.

(g) In the more important structures, a suture is used which is more slowly or never absorbed.

(h) Sustention sutures can commence and end just beneath the skin.

(1) Skin is not perfectly aseptic.

(2) You do away with needle hole scars.

(i) Cutaneous sutures.

Use the shotted, subcuticular absorbable suture; reinforced by zinc oxide plaster strips. This suture makes only two small punctures, one at each extremity of the wound and serves its function admirably.

BAY COUNTY.

At the October meeting, a symposium on Venereal Diseases was held. The following papers were read:

ETIOLOGY AND DIAGNOSIS.

G. A. Williams, Bay City.

GONORRHOEA—*Etiology*—The causes of gonorrhœa are predisposing and exciting. The chief predisposing causes are the lymphatic temperament, undue sexual, other kinds of excitement and alcoholic excesses, fatigue, and the peculiar proneness to urethritis which is found in many cases. Gonorrhœa is, of course, also generated "de novo," as the result of promiscuous intercourse and filthiness. The exciting cause is the diplococcus of Neisser.

Diagnosis—The incubation period of gonorrhœal urethritis is from three to five days. The diagnosis of gonorrhœa is made absolute when you obtain the Neisser organism. The doctor described the morphological and cultural characteristics of the gonococcus.

*Abstract of paper read before the Barry County Medical Society Dec. 13, 1903.

CHANCROID—*Etiology*—Its cause at the present time can scarcely be doubted. The micro-organism, as described by Unna and others, can be found in every case. Morphological characteristics were then given.

Diagnosis—1. Patient may be repeatedly inoculated with the virus of chancroid.

2. The bacillus of Unna is present in the secretion.

3. Incubation period is one to three days.

4. The appearance of the lesion:

(a) Has a more or less stamped-out formation.

(b) Edges irregular.

(c) Covered with yellowish pus.

(d) Base is generally not indurated.

(e) Usually multiple.

5. Auto-inoculable.

6. Never followed by systemic disturbance.

7. Bubo—common.

SYPHILIS—*Etiology*—It is readily transmitted from one individual to another by contact. The specific germ has not been as yet established.

Diagnosis—1. Incubation period is from 10 to 30 days.

2. The appearance of lesion:

(a) Usually but a slight erosion, situated on an indurated base.

(b) More often single.

(c) Gives off clear, serous fluid.

3. Adenitis—not liable to suppurate.

4. Followed by constitutional symptoms which the doctor enumerated.

MANIFESTATIONS OF VENEREAL DISEASE IN EYE, NOSE AND THROAT.

C. H. Baker, Bay City—Most cases of gonorrhœal infection of the eye occur in the newborn infant. The disease is eminently preventable by dropping a one-per-cent solution of silver nitrate into the eyes at birth. I believe every obstetrician ought to adopt this as a part of the routine management of his obstetrical cases. With proper care, most patients, seen before corneal involvement occurs, will recover without impairment of vision. If the cornea is abraded, however, great damage or total loss of sight is probable. Gonorrhœa in adults is vastly more dangerous to vision than it is in the infant. In most of the cases of adult gonorrhœa the eyesight is lost.

In regard to syphilis, the doctor believes that a person once a syphilitic is always a syphilitic. He reports a number of cases of syphilis of eye, nose and throat. His conclusions are as follows:

1. I wish to emphasize the need of impressing patients with the necessity of long-continued, faithful treatment in first bringing their disease under control, and frankness in informing the attendant of the old disorder in cases of outbreak of an obscure disorder later.

2. Nothing but heroic treatment should be tried with a case presenting symptoms of syphilis years after a supposed cure had taken place.

3. Place no dependence on the patient's denial of syphilis when symptoms point strongly to that disease, but put the matter at once to the test of mercury and iodine.

THE EFFECTS OF VENEREAL DISEASES ON INDIVIDUAL AND NATION.

W. L. Bishop, Bay City—Two classes of patients are seen by me:

1. Those who only desired (a) Relief from painful symptoms, and (b) reduction of discharge sufficient so that it will not soil their clothing.

These after marriage infect their wives with Neisser's disease. Dr. Bishop then mentioned the various gonorrhœal infections found in women.

2. Those who place themselves in your hands desiring to be entirely cured who are willing to do as you tell them. When are these patients cured?

(a) Examination for shreds in two glass urine test.

(b) Stripping the seminal vesicles for accumulations which are examined for gonococci.

(c) Introduction along the entire urethral canal of silver nitrate solutions (grs. v to water 3i). This will produce a discharge which is examined for gonococci.

If these (a, b and c) are negative, the patient is considered cured of gonorrhœa.

ATTEMPTS AND BEST METHODS TO REMEDY THESE DISASTROUS EFFECTS.

J. W. Hauxhurst, West Bay City.

MORTON GALLAGHER, Sec'y.

CASS COUNTY.

Cass County Medical Society met at Cassopolis December 31st and elected the following officers for 1904:

President—H. H. Phillips, Cassopolis.

Vice-President—J. H. Jones, Dowagiac.

Secretary-Treasurer—J. Baird, Dowagiac.

JAMES BAIRD,
Secretary.

CHEBOYGAN COUNTY.

The Cheboygan County Medical Society held its annual meeting at Cheboygan, January 5th. Three-fourths of the membership were present. The following were elected officers for 1904:

President, W. F. Reed.

Vice-President, W. G. Sellars.

Secretary and Treasurer, C. B. Tweedale.

The Society will hold its annual banquet at the New Cheboygan in February.

Four have been added to the membership during the year, the fee bill revised and new by-laws adopted.

C. B. TWEEDALE, Sec'y.

DELTA COUNTY.

The Delta County Medical Society held its annual meeting at Escanaba Dec. 16th.

This society has a membership of 23 out of a possible 29 in the county, and bright prospects for more.

Our guests were Theo. Fitch, of Ishpeming, Councilor for this district, and F. McD. Harkin, Lecturer. Papers were read by A. F. Snyder on "Typhoid Fever Twenty Years Ago," and Geo. Bjorkman on "The Relation of Hypnotism to Pelvic Diseases." Dr. Harkin gave a report of some interesting cases.

The election of officers was held, followed by a banquet.

The result of the election was as follows:

President—A. F. Snyder, Escanaba.

Vice-President—Geo. Bjorkman, Gladstone.

Secretary—H. W. Long, Escanaba.

Treasurer—Wm. Elliott, Escanaba.

Delegate—O. E. Youngquist, Escanaba.

The society will continue to hold monthly meetings, and has promises of a bright future.

H. W. LONG, Secretary.

GRAND TRAVERSE COUNTY.

SOME POINTS IN THE EARLY DIAGNOSIS OF PHTHISIS.*

A. E. CHASE, TRAVERSE CITY.

The importance of an early diagnosis of tuberculosis in whatever part of the body it may be found appeals to us all, especially when we consider that 50% of mankind are susceptible to tuberculosis, while but 14%

die from such infection. Thus phthisis is curable either spontaneously or under proper and early treatment. As a means of early diagnosis, Koch's tuberculin has proved impracticable in most cases. Serum agglutinating tests are so far a failure. One is therefore thrown back on physical signs and the finding of the bacilli. The beginning lesions of pulmonary tuberculosis are very difficult and at times impossible to make out. They develop in the apices of one or both lungs; starting as a small focus, and when there is a fairly thick layer of normal lung over it, the percussion gives no dullness. Among the early signs of pulmonary tuberculosis are weakened breath sounds, jerky or interrupted breathing, often associated with a loud vesicular murmur on the opposite side. Then, too, as a result of consolidation the expiratory murmur is prolonged to equal that of the inspiratory murmur. On inspection and palpation of the chest, I have several times noticed a lessened or tardy expansion of the chest, even when I could not be sure of a heightened respiratory murmur at the opposite apex. In order to detect mild degrees of dullness in the apices of the upper lobes, light percussion should be made over the supra-clavicular and supra-spinous fossæ. Heart sounds easily conducted to the apices, generally accompany a loss of resonance in the lung, due to consolidations or tubercular foci.

Sudden or occasional periods of hemoptysis in an otherwise apparently healthy patient, especially with a family history of tuberculosis should at once make us suspicious as to the probable presence of a tubercular lesion. Disturbed temperature equilibrium, ranging from 99° to 101°, extending over a period of 2 to 4 weeks with or without cough, and with some pain in the chest, with general malaise and loss of appetite, should put us upon our guard and make a very strong link in the chain of symptoms for the diagnosis of phthisis.

Not in every case of a clinical picture of phthisis are we able to find tubercle bacilli in the sputum, even after repeated examinations, but that doesn't prove that they are not there. On the other hand, you may have a patient come to you with a well nourished body, a well formed chest and the picture of health from all physical appearances, and you are surprised to find the tubercle germ in his sputum. When you find them it is proof positive of his condition and you need examine

*Abstract of paper read before the Grand Traverse County Medical Society.

him further only to determine, if possible, the extent of the lesion.

In every case of a doubted chronic lung disease, I think it would be wise to make an examination of the sputum. If the germ is found, it proves the condition beyond question and if it is not, it still leaves the question open for further developments.

GRATIOT COUNTY.

Gratiot County Medical Society held its annual meeting at Alma Sanitarium, Alma, Mich., Nov. 12, 1903. The following officers were elected:

President, I. N. Brainerd, Alma.

Vice-President, I. N. Montfort, Ithaca.

Secretary-Treasurer, G. S. Browning, Alma.

G. S. BROWNING, Sec'y.

HOUGHTON COUNTY.

The Houghton Medical Society met in Houghton, Dec. 7th.

PROGRAM.

M. M. Kerr read a paper on "Katatonia following Diphtheria." He stated that the pathology of katatonia was similar to that of general paralysis. The arachnoid was always involved. The duration of katatonia was from two weeks to three years. These cases can be treated at home with the aid of a trained nurse just as well as in an asylum. The treatment consists in isolation, trional in 15-grain doses for restlessness, a diet of milk, eggnog, cereals, etc.

George M. Reese presented a paper on "Puerperal Eclampsia." It occurs once in about 260 cases. The most frequent time of occurrence is between seven and eight months; next at full term as the labor begins, after labor. Its exact cause is unknown. Almost every organ in the body has been held responsible for its occurrence. The usual excretion is diminished and the metabolism is not complete. In regard to treatment no nitrogenous food should be given. In plethoric patients with a very full pulse you may bleed and inject normal saline solution.

DISCUSSION.

J. E. Scallon said he obtained good results in prophylactic treatment, with an absolute milk diet.

C. H. Rodi's experience has been that more cases develop before than after labor, though

the latter are more fatal. The amount of albumin does not indicate the severity of the case. Elimination and milk diet is the prophylactic treatment.

J. McRae has seen eight to nine cases in 18 years of practice.

P. D. McNaughton had a case in a primipara at term. The treatment was chloroform with rapid delivery.

S. S. Lee believes some cases of eclampsia occur where no albumin is found in the urine. Elimination is the treatment.

A. A. Davis reported that all the cases which had occurred in the Calumet & Hecla Hospital showed albumin in urine. It is our danger signal.

A. I. Lawbaugh does not believe in bleeding the patient. In an attack, employ chloroform, morphia and deliver.

Jas. Hosking—If we can keep the kidneys secreting a good amount of urine, we are not liable to have trouble.

A. B. Simonson—Out of 96,000 cases of obstetrics, there were 463 cases of eclampsia. Of these latter 81 died, and of these 81, only 28 showed disease of the kidneys.

W. K. West reported a case when the first symptom was a convulsion. He delivered and on the third day the patient died of pulmonary oedema.

JAMES HOSKING, Sec'y.

Houghton County Medical Society held a meeting in Hancock, Jan. 4th.

R. J. Maas presented a paper entitled "A Foreign Body in the Urethra." The most varied substances have been from time to time introduced into the urethra by sexual perverts. The foreign body I wish to report this evening is that of a piece of gold-plated watch chain 3¾ inches long, introduced in 1889. It did not cause any great annoyance until August, 1895, when I first saw him professionally. He gave a history of feverishness, chilly sensations, loss of appetite, furred tongue, diarrhoea, headache, etc., which had troubled him for the past four weeks. His temperature was 100° F. As there was present at that time an epidemic of typhoid fever, I concluded I had a walking case of typhoid to deal with. I ordered the patient to bed and made several subsequent visits. During one of my calls he drew my attention to a bubo in right groin. He denied ever having gonorrhoea or sexual

intercourse. As there was no discharge from meatus, I thought it a complication of typhoid. By rest in bed and hot applications, the bubo had about disappeared at my last visit. He later told me that some few weeks later, the bubo discharged pus for a few days. In August, 1896, he called at my office on account of an acute orchitis. There was no history of injury, so I again accused him of having intercourse. He said, no, he could not have intercourse on account of pain and hemorrhage on erection. On examining the penis I felt something hard in urethria. He then confessed that he had introduced eight years ago a gold-plated chain. He said he had introduced part of the chain, but could not withdraw it and so cut it off near the glans penis with a hammer and chisel. He could always pass urine but in a small stream. On looking into the meatus, I could see a link of the chain. I tried to dislodge it with a tenaculum but could not. I then made an incision into urethra about one inch from meatus, and after cutting through the granulations, succeeded in removing the foreign substance. I am fully convinced that the chain was the cause of the supposed typhoid, bubo and orchitis, that the reason of its causing no disturbance for so many years was on account of the gold plate, which, as you now see, has been gradually dissolved, probably by the acid urine. When the urine began to act on the brass the trouble of which he complained during the past years 1895-1896 began.

A. I. Lawbaugh read a very practical paper on "Diagnosis of Head Injuries." The paper was discussed by J. E. Scallon and N. S. MacDonald.

JAMES HOSKING, Sec'y.

INGHAM COUNTY.

The Ingham County Medical Society met in Lansing, Jan. 14th, 1904.

PROGRAM.

Election of Delegate to State Medical Society.

Reports of Cases.

Paper—"Some Prevalent Skin Diseases," F.

A. Jones.

Discussion led by S. H. Culver.

Paper—"Complication in Typhoid Fever," F. N. Turner.

Discussion led by J. W. Hagadorn.

L. ANNA BALLARD,
Secretary.

ISABELLA COUNTY.

Isabella County Medical Society held an informal meeting at Shepherd last month in the offices of Dr. King. Dr. McMullen, of Cadillac, was with us, and we had a splendid social meeting.

There were sixteen present, the largest number we have yet got together.

Dr. King is a royal entertainer, and there was nothing lacking to make the evening a very enjoyable one. It accomplished a great deal toward promoting a better feeling among a number of those present.

C. M. BASKERVILLE,
Secretary.

JACKSON COUNTY.

Jackson County Medical Society held its annual meeting at Jackson, January 5th, 1904. There was a large attendance and it was one of the most successful meetings in the history of the society. The following officers were elected for the year 1904:

President, D. E. Robinson, Jackson.
Vice-President, C. D. Hubbard, Parma.
Secretary, R. Grace Hendrick, Jackson.
Treasurer, F. W. Rogers, Jackson.
Delegate, N. H. Williams, Jackson.
Alternate, J. C. Kugler, Jackson.

PROGRAM.

Reading of Minutes.

Admission of New Members.

Payment of Dues.

Election of Officers and Delegates.

President's Address—N. H. Williams, Jackson.

"Clinical Demonstration; Examination of Neurological Cases"—Wm. J. Herdman, Ann Arbor.

"Clinical Demonstration; Physical Examination of Thorax"—E. L. Shurly, Detroit.

Clinical Cases—By the members.

The banquet was held at 8 p. m. Toastmaster, Albert E. Bulson.

Music—Messrs. Skinner, Foote, Bennett and Scotford.

Loyalty—E. L. Shurly.

The Silver Lining—Victor C. Vaughan.

Music—Messrs. Skinner, Foote, Bennett and Scotford.

Opportunities—George C. Hafford.

Idealism—William J. Herdman.

Music—Messrs. Skinner, Foote, Bennett and Scotford.

The Point of View—Rev. Fenwick W. Fraser.

R. G. HENDRICK,
Secretary.

ANNUAL ADDRESS

ESTIMATION BY THE LAITY OF THE MEDICAL PROFESSION.

NATHAN H. WILLIAMS.

I have ventured to select as the subject for the annual address of the president of this society, a matter not often mentioned, and, in my opinion, too much neglected, namely, the way in which we can place ourselves in our true light before the public, in order that the medical profession may have the estimation and appreciation that is its just due. That such is not the case now, I think all candid men will agree, and as every man is solicitous of his own reputation and jealous of his own honor, so we, as members of this profession, in which we expect to live and die and to which we are giving all that is in us of energy and devotion, must realize that this devotion should not be lost, but that our calling should be estimated at something like its true value by our fellow men, should have a position in public opinion worthy of its merits.

Without hoping that he can present anything particularly new upon the subject, your president has thought of bringing to your minds a few things which have a bearing upon the popular estimation in which the profession is held and upon the way in which we, as individuals, may influence such estimation.

One way in which medical men are injuring themselves is in belittling the action of medicinal substances. It is frequently said by physicians, more often by surgeons, that the physician of the future will not use medicines; that it will be all surgery, hygiene, dietetics. This is easily said, but will it be all? The surgeon who performs a laparotomy with a brilliant result, thinking quite correctly, that he has done something that medicine could not do, blinded by the more or less meretricious glitter of what he has done, at once says, medicine is all a delusion, surgery is everything. He is calling a part the whole. The patient work that has been done by wise men in the past hundreds, yes, thousands of years, cannot be brushed aside in such a flippant way. The accumulation of the results of accurate scientific work in all the departments of knowledge is a part of the knowledge of the world and the facts regarding the action of medicine are as much a part of scientific knowledge as the theory of gravitation or action of light.

Who can hope that surgery will ever take the place, in relieving suffering and restoring health, of the salicylates, of quinine, of mercury, of opium? When, by putting into the blood of a patient, morphine to the extent of one part to half a million, we replace agony with comfort, are we victims of a delusion? When we use anti-toxin and save a little patient's life, are we following a will o' the wisp? Should not the wonder of it rather incite us to further research among the secrets of nature, that perchance other as great blessings may be had for the asking?

If it be true, as possibly it is, that nerve force is identical with electricity, that the action of medicines is but electrical energy acting, of course, under exact laws, if it be true that the anæsthetic action of chloroform consists in simply changing the conductivity of the nerve fibres by its solvent action upon the fat contained therein, if these and a hundred other equally wonderful things be true, is it not true that the field of therapeutics offers as great rewards to the searcher after knowledge as any other possibly can? When we look candidly upon these things, must we not say that he speaks hastily who says that medicine is passing, and is it not a mistake to express to the laity a lack of confidence in our armamentarium?

Probably the most deplorable feature of the whole matter comes from the failure, on the part of the public, to discriminate between the pretender and the qualified physician and between the honest man and the knave, for the most dangerous quacks are the educated ones.

Laws will help us some, but we cannot have a perfect medical practice law until the public is educated to the necessity of it. Hence it devolves upon the physician to do what he can in that direction, by making the more intelligent, at least, understand the relation in which we stand to them as physicians; that we are simply representative of the present state of medical knowledge; that we are bound to and are able to give them the benefit of what is known of medical science up to the present time; that no one can do more than that; that we stand in the same position as other skilled professions. The mechanical engineer gives his clients the benefit of the knowledge of mechanical engineering up to the present day and his clients are satisfied, but the art and science of medicine looks so mysterious to the laity and is so juggled by the unscrupulous, that we who are trying to do

a plain and simple duty are classed in the popular mind with them.

In time, how long, oh, how long we cannot know, the one in need of medical advice will go to the honest physician as his final authority, and will no more expect the wonderful, than the railroad president will expect his engineer to build a bridge in a night.

The idea that there are different schools of medicine, radically opposed to each other, has a strong hold upon the public mind and powerfully affects it, for they say, that if two so-called schools disagree, one must be wrong, and whom can we believe? That view is shallow and the conclusion the result of ignorance, but it is a condition that exists and we should so consider it. The way to remedy this evil is to stop contention, which does no good and makes a ridiculous spectacle before the public, and lessens its respect for the disputants. For myself, if a fellow worker in our benevolent art uses much smaller doses than I, I have no quarrel with him, and if he will say nothing about the blood-letting, salivation and purgation of the past, I will not remind him of the psoric miasm or the itch mite. To be serious, we have all been acting foolishly over a detail of practice, and though it can be set down to zeal, and so extenuated, it has injured us all in public opinion and we ought to know enough to stop it.

Another thing which powerfully affects us in the opinion of the public is the matter of expert testimony in the courts. I will not attempt any explanation of why this is so. We all know it and all regret it, but we do not always realize the very great importance of it, or how more and more notorious the evil is becoming.

Man is naturally a partisan, and, if opposed, is pugnacious, and such a mental attitude is fatal to a candid search after truth. Much could be done to remedy this if, realizing the danger of the situation, we assume when called upon by an attorney for an opinion, a judicial attitude, and assure the man of law that the physician is far above being anyone's expert.

I hope you will pardon me if I speak of so common a thing as money. Our method of keeping accounts and of rendering bills has, in this practical and business-like age, a great influence upon the opinion in which we are held by those with whom we have business dealings. Though we are men of science, we cannot avoid our financial responsibility. In

my opinion, the time has long passed when the doctor was looked upon as a somewhat eccentric individual, exhaling the mingled odors of the laboratory and so absorbed in the contemplation of the mysteries of his profession as to be neglectful of material things, careless alike of dress and money. That doctor has passed. The doctor of the present should keep his accounts accurately and, as he is expected by everyone to meet his bills in a business-like way and is shown no favor because of his profession, so there is no other proper way for him, than to hold everyone to as strict an account for what is due him.

Charity is another matter, and a man may do as much of that as he likes, but it should not be confused with business. This is a business age, and if we take our stand squarely upon the value of our services, the public will respect us the more. If we are careless in our accounts, uncertain of what is due us and timid in exacting a proper remuneration, it will respect us the less.

Thus far of the individual. The old parable of the bundle of sticks which were strong enough when bound together to resist all effort to break them, but which were easily broken when separated, points us the moral that if we will maintain our organization in societies as developed in the natural evolution of progress, we will be stronger in the community and more likely to take the place which belongs to us in society.

Loyalty to our societies, county, state and national is among our first duties. Especially is this true of our county societies. In sustaining them we sustain all, for the county society is the unit, just as the town meeting is the unit of our national government.

If we would have our profession respected, we must respect it ourselves, by never speaking of it lightly, slightly or in a deprecatory manner. In that way we may take a lesson from the clergyman, who never speaks lightly of his work or tolerates any flippant remarks, derogatory of his profession. This laxity is very common among medical men, and, in a way, is the result of our knowing how little certainty there is in our limited knowledge of things in all departments of learning. We know that the light of our reasoning often fails to penetrate the fog which inaccurate premises will throw around the object of investigation; that despite all the boasting of the day, so far as science goes, we are living in a primitive age; that the life

of one man is so short that he can do but little; that nature is chary of her secrets; that men must give up their pleasure and ease, yes, even life, to find them; that disappointment is oftener the result than fruition and that from our mental limitations we often mistake the part for the whole. No one knows this better than the physician, for was it not the father of medicine who said "Life is short, art is long, opportunity fleeting, appearances deceptive, judgment difficult."

Hence the medical man is modest and not given to the positive statements of the tyro. Hence the unthinking often find some excuse for flippant remarks. Such should not be tolerated by ourselves, but in each of us should be personified the dignity of our noble profession.

KALAMAZOO COUNTY.

The Kalamazoo County Medical Society held its annual meeting Dec. 8th, 1903, at Kalamazoo. Owing to the change of the date of the annual meeting from April to December and that the present officers had acted only six months, the society decided to retain its present officers for the coming year.

President—A. H. Rockwell, Kalamazoo.

First Vice-President—F. S. Collier, Vicksburg.

Second Vice-President—F. J. Welch, Kalamazoo.

Secretary and Treasurer—O. H. Clark, Kalamazoo.

The following papers were listened to with much interest and elicited very much valuable discussion:

C. H. McKain, Vicksburg: "Tumors of the Brain," with report of case.

Discussion opened by A. W. Stone.

Angus McLean, Detroit: "Congenital Dislocation of the Hip."

Discussion opened by J. W. Bosman and F. J. Welch.

Richard R. Smith, Grand Rapids: "Treatment of Early Abortion."

Discussion opened by Della P. Pierce.

O. H. CLARK,
Secretary.

LAPEER COUNTY.

Lapeer County Medical Society met at Lapeer January 13th, 1904.

PROGRAM.

"Relations of the Nervous System to Some Diseases of the Intestines"—Mortimer Willson, Port Huron, Councilor for 7th District.

"Peritonitis"—H. E. Randall.

"Hydro-Therapeutics"—W. J. Kay.

"Translations from Italian"—J. S. Caulkins.

"Psychology of Neurasthenia"—Geo. D. Butler, Lecturer General Medicine.

H. E. RANDALL,
Secretary.

MENOMINEE COUNTY.

The annual meeting of the Menominee County Medical Society was held at Menominee, Dec. 8th, 1903, with an attendance of twenty, including members and guests.

The meeting was called to order by President Phillips, who delivered an informal address, pointing out some of the benefits of the society that were already apparent. He emphasized the fact that every physician but one in the city of Menominee is an active member and congratulated the society upon the harmony and cordial feeling that prevail among the profession in the community.

The secretary's report showed that eight meetings have been held during the year, with an average attendance of ten, the total membership being twelve.

An excellent paper on "Insanity and the Insane" was read by E. Grignon, Judge of Probate for Menominee County. After a brief historic review of insanity, he outlined the causes, prognosis and treatment of the various forms of insanity.

C. R. Elwood, in the discussion, dwelt upon the value of having a physician as probate judge. In cases of insanity, good histories are of the greatest importance, but unless the probate judge is a medical man these are not obtained and transmitted to the asylums. Then, too, the ordinary probate judge is very easily deceived by the patients.

C. O. Thienhaus, of Milwaukee, presented a paper on "The Technic and Advantages of Vaginal Operations in Cases of Retroflexions of the Uterus."

ABSTRACT OF THIS PAPER.

The fact that a number of operations have been devised and are being practiced for the relief of retroflexions of the uterus is evi-

dence that we have as yet no method that is satisfactory for all cases. Generally vaginal suspension is preferable to ventral suspension. It leaves the uterus in the small pelvis where it belongs. It is efficient, is attended with but little shock and when properly made does not complicate subsequent pregnancy. We get a suspension when serous surfaces are approximated, fixation when uterus becomes attached to the deeper structures. A number of cases are recorded in which Cæsarian section had to be resorted to following fixation of the uterus. Suspension is the proper method. In pregnancy enlargement of uterus is from the fundus, and if this be left free the natural development of the uterus and subsequent delivery will not be interfered with.

A unanimous vote of thanks was extended to Dr. Thienhaus for his valuable paper.

A telegram from Henry B. Favill, of Chicago, who was to have addressed the society, was read, stating that he had been recalled while on his way to Menominee by the serious illness of his son.

Officers for the ensuing year were elected as follows:

President—J. F. Hicks, Menominee.

Vice-President—R. G. Marriner, Menominee.

Secretary and Treasurer—P. J. Noer, Menominee.

Member of Board of Directors—R. A. Walker, Menominee.

Delegate to State Medical Society—E. Sawbridge, Stephenson. Alternate—H. A. Venema, Menominee.

After adjournment of the meeting the members of the Menominee County and the Marinette County Medical Societies and their wives were royally entertained at a dinner given by Doctor and Mrs. B. T. Phillips, at their beautiful home on Main street.

Following the repast, toasts were heartily responded to in speeches, stories and songs. This was the first time in the history of the Menominee River when the physicians and their wives all met together, and the hope was freely expressed that similar occasions would become more frequent in the future.

P. J. NOER, Secretary.

MIDLAND COUNTY.

At the regular meeting, held January, 1904, the following officers were elected:

President, F. A. Towsley, Midland.

Vice-President, F. H. Johnson, Midland.

Secretary-Treasurer, W. H. Brock, Midland.

Delegate, I. A. Towsley, Midland.

Alternate, W. H. Brock, Midland.

W. H. BROCK, Sec'y.

OSCEOLA COUNTY.

The annual meeting of the Osceola County Medical Society was held at Reed City, Friday evening, Nov. 20th. The following papers were read:

"Ulceration and Cancer of Stomach," by W. T. Dodge, Big Rapids; "Examination of Sputum for Tubercle Bacilli," by A. A. Spoor, Big Rapids.

The following officers were elected for ensuing year:

President, H. L. Foster.

Vice-President, G. T. Fields.

Secretary and Treasurer, T. F. Bray.

Delegate to State Society, H. L. Foster.

Alternate, A. Holm.

Three new members were added and one lost by the death of Ernest W. Spinney.

After the meeting, a banquet was given to the members by Messrs. Mulholland and Strong, of Reed City.

THOS. F. BRAY, Sec'y.

SANILAC COUNTY.

Sanilac County Medical Society held its second annual meeting at Croswell, January 4th, 1904.

PROGRAM.

"Some Clinical Reports of Injuries and Their Effects on the Mind and Nervous System"—Samuel Bell, Detroit.

Discussion opened by R. G. Healy, M. D., Minden City.

"A Flap from the Fascia Lata in the Radical Cure of Inguinal Hernia"—Hal. C. Wyman, Detroit.

Discussion opened by H. McCrac; Marlette. "Hysteria"—T. S. Kingston, Croswell.

Discussion opened by H. H. Learmont, Croswell.

"Why Should the Law Exact a Higher Degree of Skill from a City Physician than from His Country Brother?"—D. C. O'Brien, Lexington.

Discussion opened by John E. Campbell, Brown City.

"The Medical Profession"—J. W. Scott, Sanilac Centre.

Discussion opened by E. Meyer, M. D., Carsonville.

Annual address by the President, H. W. Smith, Carsonville.

G. S. TWEEDIE,
Secretary.

SHIAWASSEE COUNTY.

The annual meeting of Shiawassee County Medical Society was held December, 1903. The following officers were elected:

President, C. McCormick, Owosso.
Vice-President, T. N. Youmans, Bancroft.
Secretary-Treasurer—Chas. Shickle, Owosso.
Board of Directors—L. M. Cudworth, Perry;
J. N. Eldred, Chesaning; J. J. Howard, Byron.
V. C. Vaughan of Ann Arbor delivered an address on the early diagnosis and treatment of tuberculosis.

CHAS. SHICKLE, Sec'y.

TUSCOLA COUNTY.

Tuscola County Medical Society held its annual meeting at Vassar, Jan. 11th, 1904.

BUSINESS MEETING.

Report of Officers and Delegate:
Address of President—A. L. Seeley.
Address of Councilor—S. I. Small.

PAPERS.

"The Physician's Duty to Pregnant Women"—Geo. Bates.

"The Conduct of Normal Labor"—A. J. Howell.

"The Care of Puerperal Women"—C. W. Clark.

"The Treatment of Valvular Heart Lesion"—T. W. Hammond.

The doctors' wives were enteretained in the afternoon by Mrs. F. D. LeValley.

W. C. GARVIN,
Secretary.

WASHTENAW COUNTY.

The Washtenaw County Medical Society held its December meeting on the second Wednesday evening of the month.

The paper of the occasion was read by John P. Sawyer, of Cleveland, Ohio, Professor of Medicine in the Western Reserve University, who discussed "The Clinical Relations of Stomach Disorders to Diabetes." The essayist presented an exhaustive dissertation and

cited a number of cases to prove the relationship. The paper was discussed by Doctors Dock, Vaughan and Cowie.

Doctor Sawyer made a few concluding remarks.

Doctor Cushny reported the finding of aniline dye in a specimen of urine, which was traced to certain patent pills that are advertised as female regulators.

The membership of the society was augmented by the election of fourteen applicants.

A vote of thanks was extended to Doctor Sawyer for his able paper.

The next meeting will be held on the second Wednesday evening in March, at which time delegates to the State Society will be chosen.

J. W. KEATING,
Secretary.

WAYNE COUNTY.

General meeting, December 3, 1903. I. E. Polozker read a paper entitled "Medico-Legal Post-Mortems." The definitions and objects of official necropsies were reviewed, and the ideal examination contrasted with the examination as held in Wayne County. It is impossible to do good work in Detroit, because of the lack of facilities, and the interference of the police and the newspaper men. The writer then vigorously attacked the method of selecting the detectives, and deprecated the manner of obtaining expert testimony. He recommended that the Wayne County Society should start a movement to influence legislation in favor of (1) an improvement in the manner of taking expert testimony; (2) the abolition of the coroner's court, and (3) the building of a suitable morgue. Post-mortem examinations should be a part of the curriculum of every medical school.

Wm. P. Lane, of the Detroit bar, opened the discussion, followed by David Inglis, D. E. Hills, O. W. Owen and E. L. Shurly.

On motion the society referred the recommendations made by Dr. Polozker to the committee on legislation.

D. L. Walmsley gave a history of his own case, under the title, "A Living Pathological Specimen."

General meeting, December 10, 1903.

This was given up to a symposium on milk.

C. L. Stewart presented the first paper on "Milk Inspection." The work of the milk inspectors covers (1) the examination of the

milk itself, and (2) the investigation of the milk supply. Two 6-ounce samples of the milk are taken in sterilized bottles, one of which is given to the producer, and the other taken to the laboratory for examination. These samples are taken from the farms, from the cans during transportation, from the milk depots, from the stores, and from the wagons on the street. The milk being handled so many times, the chances for contamination are great.

The sources are carefully inspected, attention being given to barns, employees, drainage, fodder of the cows, health of the cows, the method of aeration, the manner of cleaning the cans, etc.

The essayist condemned the stables in and near the city, where the cows are crowded together and no chance is given for the proper exercise of the animals. The good work the system has accomplished is evidenced by the decrease in the number of samples showing less than the required 3% of butter fat. There have also been few samples adulterated with formalin, boric acid, and borax.

Guy L. Kiefer's paper, "Standards of Milk Supply in Detroit and Other Cities," and George Duffield's paper, "Milk in Its Pathological Relations," appear among the original articles in this issue of the Journal.

Meeting December 17, 1903.

SYMPOSIUM ON PNEUMONIA.

The president, C. G. Jennings, in introducing the subject, spoke of the prevalence of the disease in the great centers of population. The mortality of tuberculosis, typhoid fever, scarlet fever, smallpox and diphtheria combined is but little greater than that of pneumonia alone.

Bar air and unhygienic living are factors in the etiology. Age has little influence, but the disease is more prevalent among males than among females. Cases are most frequent during the winter and spring months, some authorities holding that the great changes in temperature and humidity enhance the virulence of the pneumococcus.

While pneumonia is more fatal among alcoholics, statistics seem to show that they are not more prone to the infection. Other infectious diseases leave a soil favorable to the development of the pneumococcus, and previous attacks enhance susceptibility. The great predisposing factor is exposure to cold.

That pneumonia is a disease directly com-

municable every physician has had ample evidence.

The discussion of the evening should be confined to acute lobar pneumonia, by which we understand a disease produced by the entrance of the pneumococcus into the air cells of the lung and the development of its toxins in the cells and tissues. The lung has two sets of blood vessels, but only the functional set is important. If it is possible to combat any disease by bacterioidal remedies introduced into the blood, pneumonia would seem to offer the best opportunity, for a large percentage of the blood passes directly through the diseased organ.

Joseph Sill read a paper on the "Bacteriology of Pneumonia."

Bacteriologically, as well as clinically, there are, broadly speaking and leaving out of account cases of tubercular origin, two types of pneumonia—the lobar or croupous, and the lobular or broncho-pneumonias.

The one is a specific infectious disease, caused by a single micro-organism; the other has a varied bacteriology, and is frequently secondary to, or a complication of, some other infectious disease.

Croupous pneumonia, that type of the disease characterized by a sudden onset with a chill, by lobar involvement, rusty sputum, high temperature and defervescence by crisis, is due to an organism of the streptococcus group, known by several names, as Frankel's pneumococcus, the micrococcus of croupous pneumonia, or the diplococcus lanceolatus. The credit for the discovery of this micro-organism probably belongs to George M. Sternberg, formerly Surgeon-General of the United States Army, who isolated the pneumococcus from the blood of animals inoculated with his own sputum, in 1880. It is a micrococcus triangular or lance shaped, occurring typically in pairs, and when isolated from the animal body, surrounded by a capsule. When grown artificially in the laboratory, this capsule is wanting. Its ordinary habitat is in the secretions and on the mucous surfaces of the animal body, especially those of the upper air tract. It does not find favorable conditions of growth away from the living host, and laboratory cultures rapidly die out.

Just what conditions are necessary to permit it to penetrate to the smaller bronchi and the alveoli, are not well understood, for it is often present in healthy throats, and is frequently found alone or in company with other

organisms in anginas, and it can often be demonstrated in cultures taken from the throats of those suffering with true diphtheria.

Like diphtheria, pneumonia is essentially a local disease, the diplococci being rarely demonstrable in the blood, although a true pneumococcus septicemia is not unknown. All the manifestations of the disease cannot, however, be explained by the local action of the bacteria. In addition to causing a fibrinous inflammation involving one or more lobes of the lung, the pneumococci elaborate a toxin, which, absorbed and circulating in the blood, produces the systemic symptoms of the disease.

Although clinical observation shows that an attack of pneumonia offers no protection against subsequent attacks, but on the contrary, seems to predispose to a second infection, pneumonia is no exception to the rule that an attack of an infectious disease confers an immunity of longer or shorter duration against the infection from which the patient has recovered. In pneumonia this immunity is very ephemeral, disappearing sometimes in the course of a few days, but there is evidence that goes to show that for a short time at least, immunity to the disease does exist. An animal can be protected against inoculation with the pneumococcus by injections of the blood serum of a patient suffering with the disease. The occurrence of crisis seems to be a manifestation of immunity, for, while the systemic symptoms disappear with rapidity at this time, there is no corresponding change in the anatomic condition of the lungs, for although defervescence may occur in twenty-four hours, resolution of the diseased lung tissue is a much more gradual process. Crisis is then to be explained, not by any sudden change in the local condition, but on the ground that the presence of the toxin of the pneumococcus in the body fluids causes the production of substances capable of neutralizing the toxin, and as soon as these substances are produced in sufficient quantity to neutralize all the poison elaborated by the bacteria, the systemic symptoms disappear, and this immunity persists at any rate long enough for the diseased lungs to return to their normal condition.

Pneumococcus pneumonia is ordinarily a primary infection. It may, however, be secondary to a tonsilitis or angina due to the pneumococcus, and the bacteria may reach the lungs by way of the blood stream, although the usual path of infection is through the respiratory passages.

F. W. Mann, in speaking of the complications, said that these may be divided into two groups, (1) those coming from the patient, and (2) those due to an extension of the infectious process. Among those of the first group are the results of the use of alcohol, pregnancy and seoliosis. Among those of the second group are pleurisy, empyema, endocarditis, thrombosis and embolism, meningitis, and croupous colitis.

E. L. Shurly spoke of the treatment. There are three indications as follows: (1) Treatment directed to a neutralization of the elaborated toxins; (2) treatment directed to a limitation of the infectious process; and (3) treatment directed to the support of the respiratory, circulatory, and central nervous systems.

As yet there is no specific medication, but the recent advances which have been made along the lines of serum therapy seem to offer bright prospects for the future.

The fever should be regarded as a normal reaction and high temperatures should not be combated by the coal tar products, veratrum viride, or aconite, as these depress the heart and the central nervous system. Such remedies as have a selective action on the glandular tissues may be used to hasten the absorption of the exudate. Calomel and the biniodide of mercury will thus act.

Therapy is most valuable along the line of stimulation, the character of the pulse being the guide. Alcohol is the most valuable stimulant. Strychnine, digitalis, nitroglycerine and the nitrites, though of value, are much abused, as there is risk of tiring out the nerve centers. The speaker's experience with oxygen has been disappointing. Ammonium carbonate is a good diffusible stimulant. The use of opium in certain cases is to be recommended. Bathing has a decidedly beneficial effect upon the heart and the nervous system.

The papers were discussed by **Drs. Flinterman, Delos Parker, Thaddeus Walker, Lau, Fay, Siegel and Appelbe**.

Surgical section, Dec. 7, 1903.

Hal. C. Wyman read a paper on "Bone Abscess of the leg." This affection may be acute or chronic, more frequently the latter. It is characterized by swelling and pain in leg and knee, the pain being like that of inflammatory rheumatism, but differentiated from it by the persistent localization. The bone is painful on percussion and throbs when the leg is moved. On palpation, the

sharp edge about the head of the tibia becomes flattened, and there is a fusiform swelling to be made out.

The treatment is with the chisel and gauge, until the anterior wall of the bone abscess is removed. The cavity thus exposed is scraped, and the infected surface destroyed with the curette and chemicals. The periosteum should first be elevated, and flaps saved to turn down and line the exposed surface. Dead bone and sequestrum are the exception.

Constitutional treatment embraces change of food and fresh air. Cases do especially well if the patients are placed in the fresh air to sleep.

Tubercle bacilli have been found in some of the cases.

A number of cases, with histories covering from six weeks to six years, were reported.

Medical section, December 14, 1903.

W. M. Harvey read a paper on "Acute Gastritis," and D. M. Cowie, of Ann Arbor, one on "Achyilia Gastrica."

Section on gynecology and obstetrics, December 21, 1903.

Ellen B. Everitt, of Philadelphia, presented a paper on "Dysmenorrhœa and Allied Manifestations."

PUBLICATION COMMITTEE.

GONORRHOEA.

Historical Resume.—It is a disease of great antiquity. Both Hippocrates and Celsus have mentioned it in their writings. Keyes, in 1903, edition on Genito-Urinary Diseases, writes that a most respectable antiquity is given to gonorrhœa by the fifteenth chapter of Leviticus, although it is contended that the discharge known to the Jewish law-giver was a simple urethritis. Gonorrhœa was accurately described by many writers of the middle ages. The early observers considered it a disease of the secretory apparatus with a flow of semen from external urethral orifice. Hence came the name of gonorrhœa—flow of semen.

Toward the end of the fifteenth century syphilis appeared throughout Europe. As this disease and gonorrhœa occurred often together, the former was thought to be the constitutional

sequelæ of the latter. John Hunter, in 1767, believing in the non-identity of the two diseases, inoculated himself with pus from a patient who was suffering with acute gonorrhœa. Unfortunately this patient also had unrecognized syphilis and Hunter caught both diseases. In 1793 Benjamin Bell published an exhaustive article on non-identity of the tripper and the great pox.

During the years 1831-1837 Ricord inoculated many people and proved syphilis and gonorrhœa to be distinct diseases.

Hugh H. Young, of Baltimore, has gotten up a list which sets forth the chronological advance of our knowledge and the names attached to each new step as seen below. (*Jour. of Cutaneous and Genito-urinary Diseases*, June, 1900.)

Although Neisser announced his discovery of the gonococcus over 20 years ago, it has only been during the last few years that evidence has been forthcoming to prove its peculiar and widespread powers of pyogenic injection. The chain of evidence is now practically complete:

In 1879 Neisser (*Centralbl. f. d. Med. Wissensch., Berl.*, Bd., 28, 1879) demonstrated that this coccus was the cause of ophthalmia neonatorum, but it was not until 1887 that it was successfully cultivated by Bumm. (*Der. Mikroorganismus der Gonorrhœischen Schleimhaut Erkrankungen.* "Gonokokkus Neiser"). Since then it has been shown by pure cultures that the gonococcus may be the sole cause of various ascending and metastatic infections, viz.:

Arthritis, first demonstrated in pure culture by Lindemann, 1892 (*Beitr. z. Augenh., Hamb. u. Leip.*, 1892, p. 31).

Tendosynovitis, by Tollemer and Macaigne, 1893 (*Rev. de Med.*, Paris, Nov. 1893, p. 990).

Perichondritis, by Finger, Ghon, and Schlagenhauser, 1894 (*Arch. f. Dermat. u. Syph., Wien.*, 1894., Bd., 28, p. 330).

Abscess, subcutaneous, by Lang and Paltauf, 1893 (*Arch. f. Dermat. u. Syph., Wien.*, 1893, Bd., 25, p. 330).

Abscess, intramuscular, by Bujivid, 1895 (*Arch. f. Dermat. u. Syph., Wien.*, Bd., 38).

Salpingitis, by Wertheim, 1882 (*Arch. f. Gynäk., Berl.*, Bd., 42, p. 1).

Circumscribed pelvic peritonitis, by Wertheim, 1892 (same article as the above).

Adenitis (gland of neck) by Pettit and Pichevin, 1896 (*J. d. Mal. Cutan. et Syph.*, Paris, 1896, p. 419).

Pleurisy, by Mazza, 1894.

Endocarditis, by Thayer and Blumer, 1895 (*Arch. d. Med. exper. et d'anat. path. Par.*, Nov., 1895).

Septicemia, by Thayer and Blummer, 1895 (same article as the above).

Acute Cystitis, by Wertheim, 1895 (*Ztschr. f. Geburtsh. u. Gynäk.*, Stuttg., 1896, No. 35).

Chronic Cystitis, by Hugh H. Young, 1900 (*J. f. Cut and Genito-Urinary Diseases*, June, 1900.)

Pyonephrosis, by Hugh H. Young, 1900 (same article as the above).

Diffuse Peritonitis, by Hugh H. Young, 1900 (same article as the above).

MORTALITY OF MICHIGAN DURING DECEMBER, 1903.

There were 2,942 deaths returned to the Department of State for the month of December, or 319 more than reported for the previous month. The death rate was 14.1 per 1,000 population, as compared with 12.9 for November.

There were 490 deaths of infants under 1 year, 191 deaths of children, aged 1 to 4 years, and 944 deaths of elderly persons over 65 years of age.

Important causes of death were as follows: Tuberculosis of the lungs, 158; other forms of tuberculosis, 33; typhoid fever, 48; diphtheria and croup, 96; scarlet fever, 17; measles, 16; whooping cough, 23; pneumonia, 376; influenza, 49; cancer, 151; accidents and violence, 182.

There was a decrease in the number of deaths reported from typhoid fever, and the usual seasonal increase in deaths reported from pneumonia and influenza. There were no deaths from smallpox during the month. One death from chickenpox was reported from Highland township, Osceola county.

CHANGE IN MEMBERSHIP.

(Dec. 15th to Jan. 15th.)

NEW MEMBERS.

H. V. Abbott, Shepherd, Mich.

J. C. Abbott, Winn, Mich.

W. W. Arscott, Alpena, Mich.

W. G. Bayley, Carlton Center, Mich.

H. Bayer, Cooperville, Mich.

D. E. Bennings, Schoolcraft, Mich.

P. C. Bourdeau, Grand Rapids, Mich.

Dr. Brailly, Freeport, Mich.

W. A. Burham, Trimountain, Mich.

A. M. Campbell, Grand Rapids, Mich.

E. O. Cilley, Conklin, Mich.

R. P. Comfort, Nashville, Mich.

H. R. Conklin, Tecumseh, Mich.

Ray Connor, 91 Lafayette Ave., Detroit, Mich.

J. A. DeVore, Grand Rapids, Mich.

J. V. Dooling, St. Johns, Mich.

R. R. Eaton, Lowell, Mich.

E. Elliott, Chesaning, Mich.

C. P. Felshaw, Holly, Mich.

F. B. Fisk, North Adams, Mich.

J. Fletcher, Kalamazoo, Mich.

C. B. Fulkerson, Kalamazoo, Mich.

A. Grigg, Saginaw, Mich.

H. W. Hammond, Luther, Mich.

C. B. Hernam, Grand Rapids, Mich.

A. Holm, Ashton, Mich.

H. D. Hull, Tecumseh, Mich.

F. Huntly, Reed City, Mich.

M. Y. Hyde, Prairieville, Mich.

T. C. Irwin, Grand Rapids, Mich.

G. K. Johnson, Grand Rapids, Mich.

O. A. La Crone, Kalamazoo, Mich.

C. W. Logan, Paris, Mich.

M. B. McCausland, Covert, Mich.

E. McCoy, Grand Rapids, Mich.

C. S. McIntyre, Woodland, Mich.

A. A. McKay, Coleman, Mich.

R. J. McMeekin, Saginaw, Mich.

A. Magill, Midland, Mich.

E. L. Martin, Maple Rapids, Mich.

W. S. Morden, Macon, Mich.

J. Mulhern, Grand Rapids, Mich.

T. B. O'Keefe, Grand Rapids, Mich.

H. Palmer, St. Johns, Mich.

Willis Parr, Metz, Mich.

A. Roche, Kearsarge Mine, Mich.

J. A. Rowley, Durand, Mich.

W. H. Scott, Kalamazoo, Mich.

I. S. Townsend, 850 Cass Ave., Detroit, Mich.

O. Whitney, Jasper, Mich.

W. D. Whitten, Hancock, Mich.

CHANGE OF ADDRESS.

C. Braidwood, Dryden, Mich.
 W. C. Brown, 1241 Gratiot Ave., Detroit, Mich.
 E. N. Dundass, Los Angeles, Cal.
 J. O. Dutrizac, Sturgeon Falls, Ont.
 W. J. Kirkbride, Fountain, Mich.
 T. B. Scott, Owosso, Mich.
 A. Striemer, Hillsdale, Mich.
 W. H. Witter, Battle Creek, Mich.

LEFT THE STATE.

A. M. Bettys, Oxford, Mich.
 T. Greiner, Sault Ste. Marie, Mich.
 J. E. Hinkson, Wacousta, Mich.

DEAD.

E. W. Spinney, Reed City, Mich.

Book Notices.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER. By George L. Richards. Published by International Journal of Surgery Co., N. Y. Price, \$2.00.

This little book of 330 pages is just what it pretends to be, a guide for general practitioners and students. The author does not attempt to give all that is known and thought on the subject, but gives in a clear and concise way, only such points as he thinks helpful in everyday practice. The bulk of the work is taken up with the things most commonly met with and only little time given to the rarer conditions. One may not always agree with the methods he advocates, but they are those he has found most useful in his own experience and are practical. The illustrations are rather more numerous than usual and for the most part clear.

DISEASE OF THE PANCREAS, ITS CAUSE AND NATURE. Eugene L. Opie, M.D. Cloth. pp. 359. J. B. Lippincott Company. Philadelphia, Pa. 1903.

It is seldom one has the pleasure of reviewing so complete and scholarly a book as the one before us. The etiology of pancreatic disease has long been shrouded in mystery. This is partly due on the one hand to the rarity of the disease and partly to the difficulty with which it can be recognized. This work considers chiefly those

conditions peculiar to the organ and those whose etiology is characteristic. The first three chapters are given over to a very excellent and thorough description of the gross and minute anatomy of the pancreas. Those points which bear on the pathology and are not fully given in the ordinary text book receive the chief attention, especially the interacinar islands which play such an important rôle in the physiology as well as the pathology of the gland. The anomalies which render acute pancreatitis such a rare disease are fully described.

Acute disease of the pancreas is taken up fully and the rôle gall stones play in its etiology well proven. It is certainly clear that some, if not all, cases of acute hæmorrhagic pancreatitis are due to the lodging of a small calculus in the common duct, permitting a flow of bile up through the pancreatic duct and so into the pancreas. Fat necrosis, its significance and cause are given a full chapter.

The varieties of chronic interstitial pancreatitis are clearly described, beginning with the congenital syphilitic pancreatitis. Then the two main groups of the disease in adults are discussed, (a) interlobular pancreatitis in which the islands of Langerhans are not involved until late in the disease and (b) interacinar pancreatitis in which the islands suffer early and in common with the acini. The causes of these forms are given as far as they are known and the different pictures they present are well contrasted.

Hyaline degeneration of the pancreas and the relation of this organ to diabetes mellitus makes one of the most interesting features of the book. The epoch-making discoveries of von Mering and Minkowski who showed the control which the pancreas exerts over the carbohydrate metabolism are given. Hæmochromatosis is studied in detail because it illustrates the relation of diabetes mellitus to a form of pancreatitis whose etiology can be explained. In conclusion, such symptoms and treatment as have been developed by this study are brought together and the line of progress pointed out. An excellent bibliography is appended.

The book as a whole reflects great credit on our American scholarship. Anatomy, pathology, physiology, the latest researches of others and the author's own experimental work are all brought together to advance our knowledge in this chosen field. It appeals most strongly to those for whom medicine is a living, breathing science and not a musty collection of facts.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

The Dwarf Tapeworm (*Hymenolepis Nana*). C. W. Stiles believes in spite of the assertion of American text books that the armed tapeworm, *tænia solium*, is the common one found in the United States, that the unarmed worm, *tænia saginata*, the parasite got from eating beef, is most frequently found. These two, with the broad Russian tapeworm, a form practically unknown in this country, are large worms. He has reason to believe that the dwarf tapeworm, varying in size from an eighth inch to two inches in length, is common in the United States, but has so far largely escaped observation. It was first found in this country in 1873 and again in 1902, but since then, because looked for, in a considerable number of instances. This worm has its early life in rats and mice. From the visits of the infected rodent to pantries and other food receptacles the food becomes infected. Such infection would necessarily occur chiefly in houses of poor construction and so among the poorer classes. It has also been found among inmates of institutions such as poor houses, asylums, orphan homes, etc.

It resides in the ileum and there may be several thousand in a single individual. Although so small, it can apparently produce as marked symptoms as the larger worms. A diagnosis is made by finding the minute worm or segments of it, or else by finding the eggs under the microscope. The latter method is the simpler for one familiar with the appearance of the eggs. Male fern is probably the only effective drug for its cure. Prevention by keeping the food away from infected rodents or by isolating infected patients is more desirable.—(*New York Medical Journal*, Nov. 7, 1903.)

Haw Scarlet Fever is Transmitted.—Aaser, after treating 3,800 cases of scarlet fever and noting the source of infection, found that 79 were infected from patients who had been discharged from the hospital, apparently free of the disease. The patients were kept nine weeks in the institution and carefully disinfected before their discharge. Desquamation was all finished at least a week before discharge. He therefore concludes that the skin was not the source of infection in these 79 cases. He thinks they were infected from the throats, noses or ears of those who went out. He believes scarlet fever is contagious much longer than is generally supposed. He says: "The poison can apparently remain for a considerable length of time in the nose, throat, or ear. Through the secretion from these mucous membranes the poison is further distributed. In this secretion, then, lies the danger of infection. As long as there is an abnormal secretion the patient must remain isolated, even if the period be twice as long as is ordinarily regarded as necessary, and the patient with scarlet fever should never be discharged until the physician has convinced himself by careful examination of the throat and nose

that the secretion has ceased.—(*Nord. Med. Archiv.*, 1903, *Abt. II.*, *Anhang 51.*)

Chronic Polyarthritis and Tuberculosis.—Edsall and Lavenson have made a study of 18 cases of polyarthritis, partly arthritis deformans and partly so-called chronic rheumatism, with reference to the tuberculin reaction. Classification of chronic polyarthritis by different authors is rather confusing, but by using the distinctions formulated by Pribram they have arrived at a pretty definite disease. On 18 of such cases they have used the tuberculin reaction. Tuberculosis, as ordinarily seen, is rather different from the phenomena of chronic polyarthritis. Yet the frequent presence of pulmonary tuberculosis, the tubercular family history and the symptoms accompanying tuberculosis are frequently associated with chronic polyarthritis, and the difference between ordinary joint tuberculosis and the polyarthritis is no greater than between so-called scrofulous glands and lymphatic tuberculosis simulating pseudoleukæmia. Poncet, Barjon, Berard, and several other French observers have noted the possibility of such cases being tuberculosis. In fact, Poncet is convinced of the fact that many are tubercular. Edsall and Lavenson report that from their experiments there is at least weighty circumstantial evidence in its favor. If tuberculosis should prove a factor of importance in the etiology of chronic polyarthritis, it will be in the group commonly called chronic rheumatism. Yet even some of the active cases of arthritis deformans with febrile exacerbations may also be tubercular. Should some of these joint inflammations prove to be of a peculiar type of tuberculosis, it will distinctly help to clear up the confusing etiology of these obscure lesions.—(*American Journal Medical Sciences*, December, 1903.)

Splenic anaemia (Banti's Disease)—Banti has described a condition where there is an enlarged spleen and anaemia, associated later with ascites and chronic interstitial hepatitis. Dock and Warthin believe such a symptom-complex should be called splenic anaemia. They have made an exhaustive study of two cases of this disease, one of which seems to have been in the early stages with early cirrhotic changes, and the other in a more advanced stage with marked fibrosis of the liver. Both of these cases had stenosis and calcification of the portal vein. An interesting point is whether the splenic fibrosis is primary to the stenosis of the portal vein or secondary to it; in other words, is the splenic enlargement a distinct disease, or is it simply secondary to liver trouble? The anaemia seems to be secondary to the splenic trouble. They seem rather to incline to the idea that splenic anaemia is a group of pathological conditions in which even the splenic condition is secondary; that the whole subject needs more study to determine the relationship of the different changes as they arise.—(*American Journal Medical Sciences*, January, 1904.)

SURGERY.

Under the Charge of

MAX BALLIN.

The Importance of Traumatic Defects in the Skull.—The first duty of the surgeon, called upon to treat an open compound fracture of the skull, is to provide for an aseptic condition of the wound and to prevent pressure on the brain by control of hemorrhage, removal of all loose pieces of bone, elevation of depressed parts, etc. If, after such removal of loose pieces of bone, a defect in the bony skull remains, the question arises shall we leave this hole open or closed? This question has been answered differently by different observers. Kocher thinks that such a hole in the skull would act as permanent "safety-ventil" against increase of the intracranial pressure and prevent post-traumatic epilepsy. Horsley believes that it does not matter whether a small hole is left in the skull or not. Von Bergman holds that defects in the bony skull may give rise to epilepsy and reports four cases in support of his theory. To decide this important question Bunge has made inquiries as to the condition of 13 cases of compound fracture of the skull which were discharged from the Koenigsberg clinic with defects in the skull. Of these 13 cases, 10 showed disturbances due to the defect, as vertigo, headache and epilepsy. These disturbances arose often several years after the defect had developed. On the other hand inquiry concerning five cases, where the traumatic defect had been primarily covered by plastic operation, showed that none of these cases had any disturbances. Secondary plastic closure of a defect in three cases resulted once in a cure of epilepsy. These statistics indicate that every traumatic defect in the skull should be closed primarily, that is as soon as aseptic condition of the wound is established. As the best method for this closure Bunge recommends the reimplantation of the fragments. These are cleansed, cut into small pieces (the pieces of the vitrea being preferable), put on the dura mater. Such a reimplantation is usually successful. Otherwise plastic closure of the defect by a skin-peroistial bone flap or better still by a subaponeurotic flap including periostium and some bone is indicated. Once in Bunge's cases the implantation of a boiled piece of bone taken from the skull of a corpse was successful. The author does not believe in heteroplastic procedures as the implantation of celluloid, hardrubber-celluloid, hard-rubber plates, etc. (Bunge, *Mitteilungen aus den Grenzgebieten der Medicin und Chirurgie*, Vol. 12.)

Anomalies in the Circle of Willis.—The blood-supply of the brain comes from the carotid and vertebral arteries. Both of these arterial systems communicate with each other and with the arteries of the other side through the arterial circle of Willis. This anastomosis has always been considered a main factor to provide an equal, undisturbed blood supply to

the brain. Anomalies of this circle of Willis have been described several times, but have been considered mainly as anatomical curiosities. The following case observed at the Boston City Hospital shows that such an anomaly in the arterial circle in case of ligation of the carotid artery may be of fatal consequence. A man, 35 years of age, was operated upon for a lymphosarcoma of the neck. The tumor was adherent to the left common carotid artery and its removal necessitated ligation and resection of this artery. Right after the ligation the patient showed serious symptoms of cerebral disturbance, which continued until death occurred 24 hours after operation. The autopsy showed that the ligation of the carotid and a defect in the circle of Willis had cut off the blood supply to the left hemisphere of the brain. There was a degeneration of the posterior communicating arteries to impermeable threads, and an entire absence of the anterior communicating branches. This anomaly prevented collateral circulation to the left side of the brain after ligation of the carotid and was therefore the immediate cause of the oedema and softening of the left hemisphere as found in the post mortem. (Walter C. Howe, *Annals of Surgery*, Dec., 1903.)

Hemorrhoids in Children are comparatively rare, but there can be no doubt that they occur at an early age. Allingham, Matthews, Trinska have reported such cases. The latter collected thirty-nine of them, in children below the age of 15; of these, five were under one year old. (Matthews, *Diseases of the Rectum*.)

Reinbach reports four new cases from the clinic of Mikulicz; one of them, 7 weeks old, one 3½ years, one 8 years, and one 14 years of age. The author (Reinbach) used the specimen of one of these cases, consisting of the whole pile-bearing mucous membrane, which was excised after the method of Whitehead. Sections of this specimen showed clearly that hemorrhoids are not, as is commonly thought, dilated veins or varicose veins, but are true angiomas with new formation of blood vessels or cavernous spaces in a connective tissue stroma. Reinbach holds that all hemorrhoids should be considered tumors and should be distinguished from the real varicose dilation of the hemorrhoidal veins, such as are found in pregnancy.

Most piles do not show dilated veins, but show new formations of blood vessels or of cavernous tissue. The practical conclusion that Reinbach draws from this pathological finding is, that piles should be removed by excision, the best method being that of Whitehead, and not by cauterization and ligatures, for, if piles are true angiomas the latter methods will often be followed by relapses, as every practitioner has observed. (*Mitteilungen aus dem Grenzgebieten der Medicin und Chirurgie*, Vol. 12, Parts II and III.)

GYNECOLOGY AND 'OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Genital Tuberculosis. The most comprehensive research on the subject of tuberculosis of the female genital organs and peritoneum, which has yet been made, is contained in the report of Veit, presented at the Rome Congress last year. The translation of Noble is now available. Veit collected a large series of cases from various sources and after a careful study arrived at the following conclusions:

Tuberculous infections are more frequent than has been generally supposed.

It may be either primary or secondary, the former being rare.

It may be transmitted by the blood or the lymph stream, and is usually a descending infection.

When primary and circumscribed, operation is advised.

When secondary, with a tuberculous focus elsewhere, the treatment should be general. Locally, iodoform is the best palliative agent.

Peritoneal tuberculosis is always secondary. It may heal spontaneously, and, when not cured by laparotomy, there are tuberculous foci elsewhere. (*Noble, Amer. Gyn., Sept., 1903.*)

Antistreptococcus Serum. In view of the fact that such varying reports as to the value of antistreptococcus serum in puerperal sepsis, are being published both in this country and abroad, a recent investigation by Meyer is of interest. There are four different sera: (1) Marmorek's, produced from one variety of organism, made artificially virulent; (2) Deny's, made from artificially virulent organisms of several varieties; (3) Tavel's, made from unchanged organisms of different varieties; (4) Moser's, produced from one unchanged organism. After experimenting with all of these the author concludes that the only effectual one in protecting mice and rabbits is Marmorek's. This protection seems to be due to its power of diminishing the virulence of the bacteria, which are subsequently destroyed by the cells of the body. (*Zeitsch. f. klin. Med., Bd. L., p. 145.*)

Post-operative Femoral Thrombosis. Secord's case of thrombosis of the left femoral veins followed an operation for double inguinal hernia in a woman aged 35. Bassini's operation was done on both sides at the same etherization. The dissection on the right side was the more difficult, there being consequently more injury to the tissues and more extravasation.

The wounds were dressed on the 10th day. They healed per primam, and there was no redness about them. The convalescence was normal, with a temperature below 100 and a pulse below 90, until the 12th day, when there were shooting pains in the left groin, popliteal space, and calf of the leg. On the 14th day, the saphenous vein became palpable and on the 15th the temperature rose to 101, remaining there for nearly a week. The pulse was correspondingly increased in frequency, but did not show an acceleration previous to the rise in temperature, as observed by Singer in phlegmasia alba dolens. There was some œdema in Scarpa's triangle, but none at the ankle.

The various views as to the etiology of this condition are discussed and 69 cases from the literature are tabulated. Of these, 64 per cent. followed the removal of abdominal tumors. Secord calls attention to the probability that a change in the blood pressure is a causative factor. In the author's case a truss had been worn on the left side for two years, and on account of the restlessness of the patient, the bandages became loose and did not exert the accustomed pressure on the parts.

Secord's conclusions are:

(1) No single etiological factor is responsible.

(2) The rôle of infection does not seem to be an important one.

(3) Conditions of sudden decrease of pressure, dependent upon the operation, probably exert a causative influence.

(4) Treatment should be prophylactic. Traumatism and hemorrhage should be avoided and sudden decrease in tension guarded against by having the wound area well supported by well-fitting bandages.

(5) There has been no mortality in the reported cases, but the occurrence of pulmonary embolism in a certain number warns us that this termination is not an impossible one.—(*Amer. Gyn., Oct., 1903.*)

Coeliotomy in Tuberculous Peritonitis. Zesas reports two cases of peritoneal tuberculosis, which have remained well nine and five and a half years respectively, after laparotomy. The patients are both girls, 15 and 20 years of age. After a study of 69 recent articles, the author advocates early operation in this disease, as he believes that spontaneous cure rarely occurs.—(*Centralbl. f. Gczg., VII. No. 11.*)

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Original Articles

THE LACERATED CERVIX UTERI: AMPUTATION OR TRACHELORRHAPHY—WHICH?*

H. WELLINGTON YATES,
Detroit.

The significance of a cervical tear as a cause of uterine disease lies not in the existence of the rent itself, but solely in the symptoms which it produces and in the direct influence which can be traced to it as the prime factor in the production or maintenance of some pathological or functional derangement in the pelvic organs or elsewhere in the body. Not all lacerations of the uterus demand surgical interference; if they did, every parous woman would have to submit. Williams, in his excellent book just published, says "Slight tears must be regarded as an inevitable accompaniment of childbirth. Many of these heal spontaneously; others, larger perhaps, do not heal perfectly—as a result of infection or not sufficient time taken for convalescence, etc." The former class will not often solicit our attention, but the latter usually demand it. Now, what is the condition of a long-standing cervical tear, and what should be our atti-

tude thereto? Probably a simple bilateral tear, not extensive in character, but with the greater part of the V-shaped injury full of dense scar and covered by granulation tissue; the cicatrix has choked off the venous circulation in part and if the case is a long-standing one we find not only a swollen oedematous cervix but a general metritis, a constriction of the mouths of the mucous glands and small retention cysts are the result. In the cases that have existed a long time, these cervixes become hard and dense. The cicatricial tissue, not the laceration *per se*, is the source of trouble. Now, all of this is, in a way, a foreign body and one of lowered resistance. Therefore, we must remove every vestige of it, or degenerative changes may continue, and a malignancy may be the result. Granting that the latter, of course, is the exception, there are many other symptoms quite as trying to the patient's comfort as those of a more severe character. Through impingement upon nerve filaments which have a close relationship both to the cerebro-spinal and sympathetic systems, is it

*Read before the Section on Gynecology and Obstetrics at the annual meeting of the Michigan State Medical Society at Detroit, June 11, 1903, and approved for publication by the Committee on Publication of the Council.

any wonder that old, long-standing, thick plugs of scar tissue are the common enemies of so many of our invalid mothers?

Now, it is clear to me that there are definite cases in which the old Emmet operation of trachelorrhaphy should be our choice, viz., those of recent injury where little scar tissue obtains, where the whole organ is properly involuted and, save for the bilateral or unilateral rent, a normal cervix presents itself. It is obviously unfair to this operation, however, when we apply it to a condition of great hypertrophy and hyperplasia; one where the whole or greater part of the cervix is composed of scar tissue, which is a tissue of lowered resistance, and one therefore prone to degenerative change. While the word "amputation" might perhaps better be substituted by that of excision or tracheloplasty, we will, for the sake of comparison to the operation of trachelorrhaphy, adhere to it. Just in a word, then, let me repeat that in the opinion of the writer, the Emmet operation is the one of choice *only* where little adventitious tissue exists and the pathological conditions are *both recent and simple*.

When the grosser lesions obtain, the more radical measure of amputation is called for. Emmet himself said in 1897 that "with but few exceptions amputation is the proper means to employ for relief of pathologic laceration of the cervix as it is now met with." When we consider the physiology and anatomy of the uterine cervix, we find it made up largely of circular muscular fibers, and that one of its chief normal functions is to dilate during labor. Now, if an injury of any extent takes place at parturition, and is allowed to remain until a considerable scar tissue forms, then the old operation of Emmet, if done properly, demands that all this

old scar be removed, and with it it is quite unavoidable to take some of the healthy tissue; and since the majority of all these injuries are longitudinal, it is obvious that we should conserve the best interests of the patient by removing as little of these circular fibers as possible, for subsequent labors demand the same and more dilatation than the former ones did, and the more we cut off these ends, the more frequently will we have delayed labors, instrumental deliveries and subsequent tears. The more we constrict the outlet, the more we invite subsequent injury, and this is truly impossible to avoid in doing the Emmet operation where much foreign tissue obtains. Dudley, of New York, calls attention to the fact that much damage may be, and often is, done by narrowing the canal and obstructing the discharge and forcing it back into the tubes, thereby doing more harm than good. This accident is clearly overcome by amputation.

To H. P. Neuman, perhaps, belongs the credit of giving us the best technique for amputation. By the use of his knife and forceps here shown, the operation is done with neatness, accuracy and dispatch, and the manner in which the flaps are made and cut portions coapted *in their normal position* is, to say the least, scientific and surgical. No normal tissue need be sacrificed—no diseased tissue need be left. I can best detail the technique of Neuman's operation by quoting more or less directly from his article on Tracheloplasty in the Journal of A. M. A. for April 21st, 1901, and illustrate his meaning by some diagrams of my own here presented.

The patient being surgically prepared, is placed in the lithotomy position and the cervix drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curet-



FIG. I

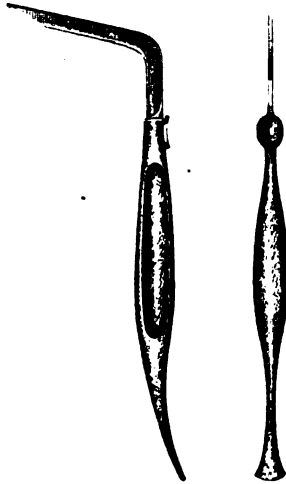


FIG. II

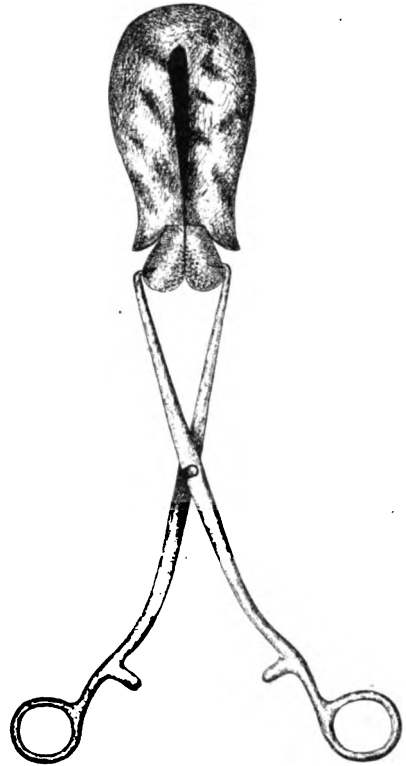


FIG. III

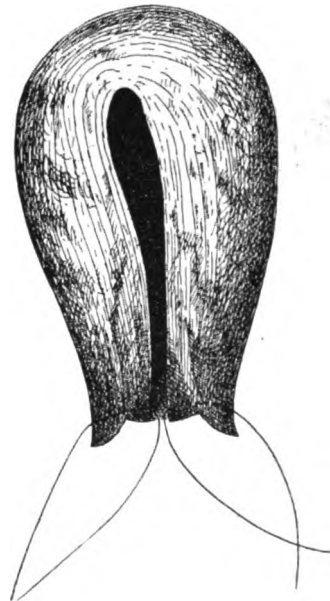


FIG. IV

ted. The vulsellum still holding the uterus in a firm position, a double tenaculum (Fig. 1) whose blades pass one another and remain locked, is so placed within the cervix that their points are directed laterally from within outward. By the use of this instrument traction is made on the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by the special knife here shown (Fig. 2) (Barrett's modification of Neuman's) and a clean cut made from above downward first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or $1\frac{1}{2}$ centimeters in front of the other and cut in the same way. The forceps is now unlocked and removed from its hold on the inner surface and is made to grasp the plug of diseased tissue, as seen in Fig. 3. The partially severed portion is now cut off with the curved scissors, cutting

from left to right. Viewing the uterus from side to side it will present much the same look as Fig. 4. The flaps thus made will now fall together and inward so as to

assume the appearance of a normal cervix. The amputated end would appear as Fig. 5.

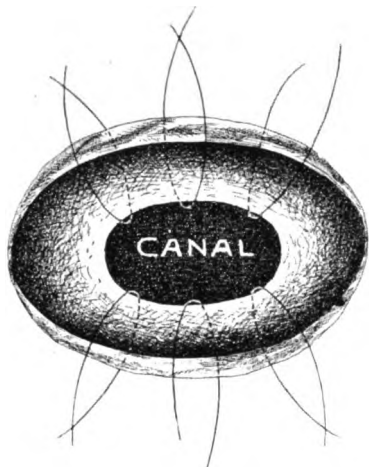


FIG. V

The sutures of silk worm gut are now placed in the flaps and the margin of the

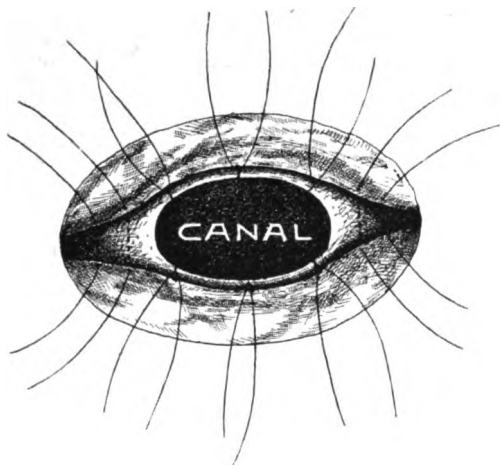


FIG. VI

canal, three in the anterior and three in the posterior, and tied as shown in Fig. 6. The open spaces at the sides are closed by two sutures. A single strand is left as coming from each knot, thus facilitating in their removal. (See Fig. 7.) I have done this operation several times since last May, and feel that Dr. Neuman has given us some good technique which has come to stay.

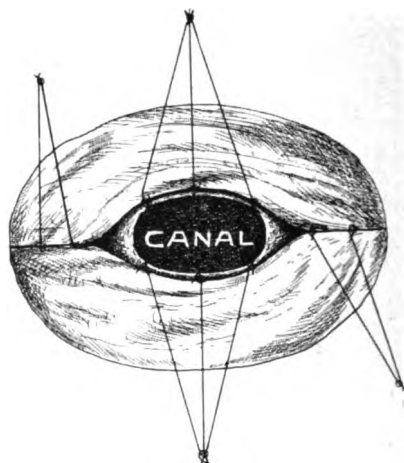


FIG. VII

One of the principal things about the operation, it seems to me, is to make a perfect transfixion, inserting the knife boldly through the entire cervix and thus avoid making a thin flap. The operation is easily done. It is quickly done, and when done properly all adventitious tissue is removed and the uterus is left in as nearly normal condition as is possible.

DISCUSSION.

Reuben Peterson, Ann Arbor: These operations for lacerations of the cervix are so common in gynecological practice that perhaps we do not give them the consideration we should. Of course very few cases present themselves during the course of a year where the cervix alone has to be repaired. Cervical lacerations are associated with other diseases of the uterus and adnexa so that the cervix operation simply becomes a part of a series of operations performed at the same sitting.

Now I have given most of the methods of amputation of the cervix an extended trial. I have also employed Emmet's operation in a good many cases, and I must say that in the majority of cases I find that Emmet's operation answers all purposes. It is an easy operation. The scar tissue can be removed by a simple scalpel and the parts can be brought together and healing almost invariably results. If the operator is careful to leave enough in the center so that the os is not closed entirely,

the results the doctor speaks of do not accrue. I prefer an Emmet operation to an amputation. I think in the majority of cases it answers the purpose best. Sometimes we get an extensive laceration where it becomes necessary to amputate, but the flaps do not in my experience come together as well as with the other operation. I think that the concensus of opinion is that the Emmet operation, which has been with us so long and has been given such a thorough trial, is the best.

Although I do not know that the doctor brought this out in his paper, it seems to me that the indications for operation for laceration of the cervix are pretty well defined at the present time. We do not operate now for so-called reflex symptoms arising from the cervix alone. We have found as we have studied this question more and more that these reflex symptoms arise from other pelvic diseases as well. We examine carefully the entire genital tract and do not rest satisfied with merely repairing a laceration of the cervix.

Mortimer Willson, Port Huron: There are undoubtedly a great many cases that we meet with in which the Emmet operation is the operation to perform. In those cases where there is scar tissue and where it is evident that the cervix is not elongated, the Emmet operation is the ideal one, and usually suffices. But there are a number of other cases where we have laceration accompanied by prolapsus with elongation of the cervix. In these cases, we oftentimes find the cervix so elongated that it protrudes from the vulva, with a very severe laceration. To use the Emmet operation in such a case, I think is not advisable at all. We must distinguish. For the last fifteen years I have been in the habit of amputating all elongated cervixes, where it was evident that there was an elongation of the cervical canal and a hypertrophy of the tissue surrounding it. I have always had much better results than I had before, when I simply repaired the laceration. So we must distinguish between our cases. I have never had any difficulty in using the ordinary instruments. Possibly those the doctor mentioned would be an aid; I have not tried them, but with the ordinary scalpel and the forceps, taking hold on the inside of the cervix and making a flap above and below, and with the scissors cutting off the harder tissue in the center, it is a simple and easy operation, which can be performed by the use of the ordinary instruments.

B. R. Hoyt, Detroit: This operation, if necessary, can be done under cocaine, where the laceration is slight, with little or no pain to the patient. In a certain number of cases, I believe, curettement does more good than the repairment of a slight laceration in the cervix.

G. Van Amber Brown, Detroit: From what I have seen of operations upon the cervix, I am forced to believe, that, in extensive lacerations, this operation, done as advocated by Dr. Yates, is probably the best. However, as to its being so easily and quickly done, in the hands of everyone, this is not true. I have seen Dr. Newman do the operation in a very few moments; while with others I have seen them work from one half of an hour to an hour or more in endeavoring to follow Dr. Newman in repair of the cervix. I believe that no physician does a patient justice in keeping them under an anesthetic so long a time, for such a simple operation. Therefore, I cannot endorse the doctor in saying, it is one every man should do. I believe, that, while the operation is in itself a simple one, yet to know when these operations are indicated and what other work should be done in connection, is not so simple. As Dr. Peterson said, it is very seldom that the cervix needs to be cared for alone. If there is a lacerated perineum, it needs to be repaired. The uterus may be retroverted, there may be adhesions, etc. If so, these also need to be cared for. So it is most important to know, what work is indicated along with the repair of the cervix, that makes it not so simple. I believe it is an operation, which should not be done by everyone.

J. G. Lynds, Ann Arbor: I wish to say that I think there is a class of cases that amputation of the cervix is applicable to and as differing from those in which Emmet's operation for repair of the cervix should be performed.

I have advocated for a good many years, that confinement cases should be examined some little time after confinement, three or four weeks, to determine whether there be a laceration of the cervix. If a laceration of the cervix is found at that time, before any serious pathological changes have taken place, the Emmet operation, simply bringing the surfaces together, is certainly the operation which should be done, because you restore the cervix to practically its normal condition and leave very little cicatricial tissue. If that is accomplished then, of course the more grave changes of cystic degeneration and cicatricial contraction

and infiltration of the tissues, do not take place. Thus you would have fewer cases that demand an amputation. But where the cervix has become infiltrated and cystic throughout, certainly the Emmet operation for repair of the cervix is not going to overcome the difficulty. You must get rid of the diseased tissue. Where these changes have taken place, you may have more to do than to amputate the cervix; but if the cases were examined a short time after confinement and the lacerations repaired at that time, you would save a great many of those more grave complications, as disease of the tubes and ovaries, which occur often, because the cervix has been lacerated and this purulent condition has been kept up. If you can repair the cervix and leave it healthy, I believe it is proper to do so; but where the mucous membrane or the diseased tissue is infiltrated, I do not think you can do it by the Emmet operation. It is necessary then to remove more tissue. An amputation of the cervix differs in different cases; sometimes it is necessary to remove the whole cervix; sometimes, only a very small portion of it. By the operation which has been described, it is not really an amputation of the entire cervix, but an amputation of the end of the cervix, rather a superficial amputation. You will have a fairly good cervix after you are through with the amputation. If you were to examine a case six

months after it had been operated upon, you would scarcely know it had been operated upon, as it is quite normal.

H. Wellington Yates, Detroit: Dr. Peterson's remark in regard to the difficulty in making the flaps fall in upon themselves, or rather that there seems to be any necessity for tension upon the sutures, is not manifest in this kind of an excision. The flaps instead of needing any tension need nothing but merely holding them in apposition, because while this, as shown here, is a deep sulcus, the ends of the flaps and canal are really together as they lie before you. (Referring to the chart which the doctor used). You have here only a sulcus. The flap is strictly a flap, and I believe Dr. Newman in giving us this operation has given us a most surgical thing. It is entirely different from a circular amputation. In a circular amputation you do have a necessity for tension, and it is absolutely normal.

With Dr. Lynds I believe that it is just these cases exactly, of old and long standing difficulties, that require the operation I have described. There is no question but what there are many cases where Emmet's operation is the one of choice. But in long standing cases, where the cervix uteri is dense or where retention systems are found, or in those cases where we have prolapsus or retroversion, these can best be treated by the operation I have described.

THE WORTH, NECESSITY, AND DUTY OF MEDICAL ORGANIZATIONS.*

J. M. ELLIOTT,
Hickory Corners.

When we stop to consider for a moment the number of doctors in our county and how comparatively few of them are connected with the Barry County Medical Society, it must be apparent to all that there are many who have not as yet acquired what Leartus Connor, of Detroit, styles the society habit. This habit, once formed, makes a man look forward to the meetings of his society with pleasant anticipation, when for a short time, at least,

he is able to lay aside the grinding toil and carking care of a general practice. The society habit ought to be formed by every young physician before professional ethics are acquired; before quarrels, strife, jealousy, and enmity have so taken possession of his mind that he is unable to form a just estimate of his relation to his fellow practitioners and his life is filled with bitterness where there should be joy and the good feeling of comradeship.

Who can estimate the benefits to the profession and to the people at large if all

*Read before the Barry County Medical Society, Dec. 3, 1903.

the legally qualified practitioners of medicine were once united and thoroughly organized? As it is now, with only a minority connected with the Medical Society, this influence for good is largely nullified by the inertia or open opposition of those remaining outside of the organization. If all were united, much of the jealousy and bitterness would fade away because the incentive which keeps enmity and strife alive would cease to exist.

It has been urged that all are not worthy of our respect, friendship and help. Would not membership in the medical society be an incentive to honesty and honorable dealing? Admitting that now and then there is an incapable, why leave him free to pursue his own way? Why not have him where discipline could be administered as it is needed? Would not the inefficient and objectionable members of the profession rapidly diminish in numbers if they had to encounter the opposition of a united profession?

Men often complain that they do not get an adequate return for the time spent in attending the meetings of the medical society. Of such we may well ask, whose fault is it that the meetings are not more profitable and interesting? What have you done to build up the society and increase its usefulness? Why should you not always be present, not only to learn, but also to teach? Where would medical science be to-day if every member of the profession had considered only his own interest and convenience? There is no man in the practice of medicine to-day, no matter how valuable his observations and deductions are, who has not received more from those who have gone before than he can possibly repay. With the Master let us say, "Freely ye have received, freely give."

In a country like ours there is no paternalism. The government does nothing for its citizens and professions, but leaves them free to manage their own affairs. This is as it should be. This is as we would have it. So, while at first thought when we see other countries fostering and protecting the profession, we may think their system is preferable to ours, a more mature consideration of the subject will convince us that ours is the better way.

Perhaps we can scarcely hope to control all of the evils of proprietary medicines, but could not something be done? Should men be permitted to exploit medicines in common use as some wonderful discovery? Should unprincipled men be permitted to use the mails and the advertising columns of the current newspapers to frighten the unfortunately afflicted for the purpose of extortion? Should we not demand a law prohibiting the sale of any proprietary medicine containing alcohol, strychnine, morphine, cocaine, chloral hydrate or any other drug to which the user is liable to become addicted, unless the fact of its containing such poison is plainly stated on the label?

In the profession of law, when a member of the fraternity commits a crime or betrays his trust, his associates proceed to disbar him and deprive him of the privilege of practicing his calling. Should not the medical profession have the same duty to perform? When a physician becomes grossly immoral, a confirmed alcoholic, or addicted to the habitual use of narcotics; or when he has been convicted of criminal abortion, should not the County Medical Society have a duty to perform and demand that he shall no longer continue to endanger the lives of members of the community, no longer be permitted to disgrace the profession? Does any one

contend that the lawyer's duty to his client requires more honor than the physician's duty to his patient? Are dollars more valuable than the citizen? Is not the relation of the physician to his clientele as sacred as any other calling can possibly be, and ought it not to be as jealously guarded?

If we had a thorough organization, with all the members of the profession of the county belonging to the Society, a well-equipped bacteriological laboratory with suitable apparatus, which might be owned by the Society and given into the charge of some member who was qualified to make examinations of blood, excreta, neoplasms, etc., at a trifling cost, to the great advantage of the individual members.

But I will not trespass upon your time to point out other and obvious advantages to be secured. Suffice it to say that to

secure the proper position for the profession requires its unification, and unification can only be brought about by an efficient organization. It has been well said that the man who, being legally admitted to the practice of medicine, does not unite with the local society places himself in the same relation to the medical profession that a bushwhacker does to the army. That man who manifests no interest in his profession will be very apt to forget the proprieties to be observed toward the individual physician with whom he may come in contact. I would have every man who graduates and takes up the practice of medicine join his county medical society, to continue his education, to teach him the ethics of the profession. And if he failed in his duty, and would not walk in the way he should go, then he might be taught that "the way of the transgressor is hard."

INTRATRACHEAL INJECTIONS:

[1] EXPERIMENTAL AND CLINICAL STUDY OF THEIR VALUE IN DISEASES OF THE LUNGS.*

WILLIS S. ANDERSON,
Detroit.

The tendency of modern medicine is to treat diseases locally, as far as possible, and to depend less on medication by the stomach to affect remote organs. We do not know what chemical changes drugs undergo in their passage through the gastro-intestinal tract and liver before entering the blood. Drugs which have been found useful in certain diseases are not well tolerated by the stomach, and it is a common experience to have patients com-

plain of anorexia and gastric distress due to medication.

In the treatment of chronic pulmonary diseases, it is more rational to treat the lungs locally than to depend so largely upon gastric medication. The stomach is then allowed to fulfil its function of digestion, and drugs are given by this organ only to correct special symptoms, which cannot be readily relieved by local means. The use of inhalations and nebulæ in bronchial and pulmonary affections has been discontinued by the writer, because they did not seem to produce, as a rule, more

*Read before the Wayne County Medical Society, Feb. 4, 1904.

than temporary relief. The very small amount of medication carried into the air passages by nebulæ is not sufficient to do permanent good, and the stomach must still bear the brunt of medication.

There is now plenty of experimental and clinical evidence to show that a considerable quantity of liquid may be injected through the larynx into the trachea and bronchi without causing marked irritation or inconvenience; and that drugs so introduced are readily absorbed into the pulmonary tissues and general circulation. The writer has used for a number of years intratracheal injections in the treatment of bronchial and pulmonary affections with marked success. Experiments have been conducted upon animals by the writer, at the Detroit Clinical Laboratory, in order to prove the absorbability of drugs by the bronchial mucous membrane, and to demonstrate that their use is free from danger.

In considering the subject of intratracheal injections the following questions arise:

1. Are substances readily absorbed by the mucous membrane of the respiratory tract?
2. Are such substances irritating or dangerous?
3. Is it practicable to introduce drugs dissolved in liquids through the natural passages into the trachea and bronchi?
4. Do the clinical results warrant the use of this method?

The histologic structure of the lining membrane of the bronchi and air cells is favorable to rapid absorption. The fine capillary network of vessels covered only by a single layer of ciliated, cylindrical cells in the smaller bronchi, and flat polygonal cells in the pulmonary vesicles, offers little obstruction to free absorption.

The immense extent of mucous membrane gives a large surface from which absorption may take place. The pump-like action of the thoracic walls with each inspiration tends to diffuse any gases, vapors or liquids which may be in the bronchi or air cells, and in this way favors absorption.

The rapid absorption of gases and vapors such as oxygen, chloroform, and ammonia is too well known to require more than mere mention. It is not so generally recognized that liquids may be absorbed from the bronchi and air cells in considerable quantities without injury to the lungs or inconvenience to the subject. The truth of this statement is shown by a number of experiments.

A fair-sized dog was chloroformed and a tracheotomy was done. Two drams of olive oil containing metheline blue were injected into the trachea. No dyspnœa or interference with respiration followed. The tracheal wound was then closed. The next day the wound was reopened and three drams of oil and metheline blue were injected. No dyspnœa or suffocation was apparent. Two hours later the dog was killed. Metheline blue was found on the surface of the pulmonary pleura, in the bronchial glands, in the parenchyma of the lungs and exuding from the smaller bronchi. There was hardly a trace in the trachea. The kidneys were stained by the metheline blue and the urine showed marked coloration. On another dog two drams of one-half of one per cent solution of iodine, in olive oil, were introduced through an opening into the trachea. A few moments later another dram was introduced. Forty minutes from the first injection iodine was detected in the saliva and urine. As the trachea was plugged above the opening none of the iodine solu-

tion could have escaped upward; and the only surface for absorption was from the bronchi and pulmonary cells. It is probable that the iodine could have been detected in the secretions much earlier had tests been made. A tracheotomy was made on a medium-sized dog and the trachea was plugged above the opening. Atropine, grain one-fiftieth, in olive oil was injected into the trachea. The pupils were closely watched. Two minutes after the injection the pupils commenced to dilate, and in six to seven minutes were widely dilated. In the same manner, on another dog, digitalin, grain $1/33$ was injected. The heart action increased within five minutes.

A series of experiments were conducted to prove the relative irritability of various liquids introduced into the trachea, through the natural passages. Dogs were selected for the experiments. The animal was held by assistants in an upright position; the tongue drawn out and held by a towel, and a properly curved canula attached to a syringe was introduced into the larynx, below the cords. In moderate sized dogs one can readily see the epiglottis, and can guide the instrument past the epiglottis into the larynx. In large dogs the epiglottis is so far down that this may be difficult.

Warm physiologic salt solution was injected into the trachea of a dog in two twelve c. c. doses (about 3.5 drams in each dose). Slight cough and exaggerated respiration for two minutes, then no evidence of any abnormal condition was noticed, and a few minutes later a stethoscopic examination gave quiet breathing with no evidence of fluid in the bronchi. In another dog twelve c. c. of pure glycerine (Price) was injected into the trachea. There was considerable coughing and ir-

ritation, with some dyspnoea. A few minutes later a stethoscopic examination revealed fluid in the bronchi, as shown by the gurgling sound. There was also loud, blowing respiration and labored breathing. This coughing and irritation continued for several hours. The irritation caused by the glycerine is what our knowledge of its effect on other mucous surfaces would lead us to expect. The irritation is undoubtedly due to its well known affinity for water. In a similar manner, a twelve c. c. dose of white petroleum oil was given to a dog without causing any appreciable irritation, and, at another time, two twelve c. c. doses of normal horse serum caused no irritation. Olive oil is free from any irritating effects, as is shown by a number of injections in animals and its clinical use in patients.

The above experiments prove the ready absorbability of drugs injected into the trachea. The experiments of Colin, which will be referred to later, prove that water is readily absorbed by the mucous surfaces of the respiratory tract in considerable quantities without injury. This would also apply to serums. The absorbability of oil is not easily proven, but a number of facts indicate that it is taken up by the mucous membrane easily. The digestibility of oils and fats is in proportion to their melting point. Those with a low melting point, such as butter and olive oil are more easily digested than those of a high melting point, such as beef and mutton fat. The same rule holds good in absorption of oil through the skin, cellular tissue and mucous membrane. We are familiar with the absorption of fat by incision through the skin. Winternitz proved that fat is assimilated in quantities of two to three grammes daily when injected under the skin. Hutchinson cites

instances where olive oil has been used successfully by subcutaneous injection to improve nutrition. If the skin and cellular tissues are capable of absorbing oil it would seem that the thin, delicate mucous membrane, richly supplied with capillary and lymph vessels, could also absorb the oil.

Experiments confirm this view. After a considerable quantity of oil has been injected into animals, and little or none regurgitated, an examination a few hours afterward does not reveal free oil in the bronchi. In the experiment where methelene blue and olive oil were used, microscopic sections showed oil in the parenchyma of the lungs and in the bronchial glands. The difficulty of fixing oil in the tissues makes one guarded about making a positive statement from this experiment. In order to study the effect of oils of different melting points a tracheotomy was made on a dog, and 2.5 drams of oil of theobroma, whose melting point varies from 86° to 95° F., was introduced into the trachea. The oil was heated to a little above the melting point, and a red coloring matter, Soudan III., was dissolved in it before the injection was made. The oil of theobroma was not as well tolerated as the olive oil. Four hours afterward the dog was killed, the lungs removed and placed in the refrigerator. Portions of the lungs were deeply stained by the Soudan III. Sections under the microscope showed the oil in the bronchioles and alveoli, but none in the parenchyma of the lungs. No oil was found in the blood. Comparing the result with the experiments with olive oil it would seem that the heavier oils were not so readily absorbed.

Since these experiments were made I have found some literature bearing upon this subject. Colin cites some interesting

experiments upon animals. He quotes Goodwin, who found that two ounces of water injected into the trachea of a dog were promptly absorbed. The veterinary students of Lyons found that they could pour forty liters of tepid water into the trachea of a horse before causing death by suffocation. Colin, by an experiment, showed that six liters of water, poured into the trachea of a horse, within an hour were promptly absorbed. This was proved by a post-mortem examination made about three hours later. Weak alcohol, oil of turpentine, ether and other liquids were found to be promptly absorbed and to give symptoms characteristic of the drug employed. Colin injected into the trachea of a horse twelve grammes of an alcoholic solution of nux vomica in solution in two hundred grammes of water. In less than six minutes the animal fell, and he died ten minutes after the injection. Section of the vagus nerve was found to lessen the rapidity of absorption. The same author injected cyanide of iron and potassium into the trachea of a horse and obtained the drug from the jugular vein a few minutes later. These and other experiments show uniformly the same rapid absorbability of the respiratory mucous membrane.

The clinical use of intratracheal injections is perfectly feasible, and thousands of injections have been given without injury, and, in a large majority of cases, with distinct benefit. Two methods of giving the injections have been practiced by the writer. The first is by the use of the laryngoscopic mirror as a guide, in the same manner as when making an application to the larynx. The injection is made during an inspiration. In some patients it is easier to make the injection while the larynx is passive, as a deep in-

spiration seems to increase the liability to coughing or gagging. The second method is the direct one. The patient is seated with the face toward the window and the head raised. The tongue is held by the operator. If the tip of the epiglottis can be seen it is easy to introduce the canula into the larynx. In those cases where the epiglottis cannot be seen it is much more difficult. Either method can be acquired by a little practice, and as one becomes experienced in giving the injections less irritation will result. In a few cases where the larynx is small and the glottic opening narrow some difficulty may be experienced, and also in those where the mucous membrane is hypersensitive. Experience in the use of the injections will insure success in almost all of the cases.

The best vehicle for the injections is olive oil. This opinion is based both upon clinical and experimental evidence. Dr. Colin Campbell, of England, uses Price's glycerine as a vehicle. Glycerine is irritating to all mucous membrane. My experiments upon animals, and a limited experience with its use upon patients convinces me that it is not the vehicle to use unless for some special reason, as, for instance, its solvent power. The objections urged to olive oil are that it is not absorbed, that it coats the mucous membrane and prevents the absorption of oxygen, are not borne out by my experiments on animals, nor by a large clinical experience on patients. The advantages are, that it is a solvent for most of the drugs which one would naturally use; such as the essential oils, iodine, iodoform, guaiacol, menthol, and many others; that the drugs dissolved in oils become less irritating than when water is used; and that absorption of the oil adds so much nutriment to the body.

Intratracheal injections have a wide range of usefulness in diseases of the lungs and bronchi. Their action is both local and systemic. By their local action cough and irritation are quickly relieved. In spasmodic asthma the dyspnoea and whistling rales are lessened within a few minutes, and breathing becomes free and easy. This action is so quick that it is evidently due to the local action on the nerve terminals. Expectoration is facilitated by the action of the oil. In many cases the amount of expectoration is increased for the first few treatments, then a noticeable diminution follows. The relief of the dyspnoea is often immediate, due to the local action of the injection. The sensations following the injections vary with the condition of the lungs, and the sensibility of the patient and the drugs employed. The patients usually described a slight smarting, burning or cooling sensation. This seldom lasts more than one minute, and is never severe. As a rule, the local sensation is in proportion to the congestion of the parts, and decreases as the condition improves. The patient usually feels the effect more in the portions of the lungs affected. The injection is influenced by gravity as well as the suction force during an inspiration. The influence of gravity can be utilized in directing the injection into one or other of the bronchi, by inclining the patient's body laterally. Dr. Colin Campbell has devised a mechanical chair, which enables him to incline, quickly and easily, a patient at any desired angle. Patients often smell or taste the drugs in the expired air many hours after the injection. As long as any of the injection remains in the bronchi or pulmonary vesicles the air will contain the drugs; thus we have the effect of inhalation prolonged over a much longer

period than when used in the usual manner.

The selection of drugs to be used is important. They must be non-irritating, freely soluble in the vehicle, and not used in poisonous doses. The writer has found that such drugs as guaiacol, camphor, menthol, iodoform, iodine and some of the essential oils are most useful. Sedatives may also be used. Some of the essential oils are germicidal in their action, as oil of thyme and eucalyptus. Dr. Mendel uses these with oil of cinnamon and wintergreen in five per cent solution in olive oil. He calls attention to the value of oil of wintergreen in cases accompanied by fever, and states that the temperature is lowered and night sweats lessened by its use. Most of the cases under the care of the writer have been given combinations of camphor, menthol, guaiacol and eucalyptus in varying proportions. Iodoform has been used in a few cases. Dr. Mendel states that iodoform is more soluble if used with the essential oils. The solution is filtered through cotton and sterilized before being used. The usual dose is from one to two drams. This may be repeated several times a day if necessary. For the simpler bronchial affections a treatment daily or every other day is sufficient. The solution should be warmed to body temperature before the injection is made. The antiseptic action of the injections lessens the liability to secondary infection and the complicating pneumonia so common in tubercular patients.

In conclusion, two illustrative cases will be given.

E. M., a girl, aged 14, caught cold in the autumn of 1902, and during the winter coughed considerably. She had thick, greenish expectoration sometimes streaked with blood, dyspnoea and general weakness.

Her appetite was fair. She came under my care April 28th, 1903. She had night sweats for a few previous nights. Examination revealed temperature of 99.2° , a small rapid pulse, and evidences of anaemia. Physical examination of the chest showed dullness at the upper left, with bronchial breathing and a few moist rales at the end of inspiration. There was a slight increase of pitch at the upper right. This patient improved rapidly under daily intratracheal injections of guaiacol, camphor-menthol in olive oil. Careful attention was given to her diet and hygienic surroundings. The noticeable effect of the injections was the relief of the cough, the gradual lessening of the dyspnoea, expectoration and temperature. She left the city for the summer and lived an out-of-doors life, taking plenty of exercise in the open air, observing strict rules as to diet and habits. She returned in the fall with no cough, nor dyspnoea, and with a substantial gain in weight and strength. I had no opportunity of examining her lungs on her return.

W. S., male, aged 38, caught cold in the fall of 1902, from which he thought he had recovered. Early in the spring he commenced to cough, lose weight and strength, and in May was confined to his bed for nearly a week. At that time he developed a hoarseness which persisted until August, when he consulted the writer, complaining of hoarseness, cough with thick yellowish expectoration, fever, night sweats, poor nutrition, and general malaise. His temperature for the three days following the examination was in the morning, about 99° , and in the evening from 100 to 101.5° . The larynx showed evidence of beginning tubercular involvement. Physical examination of the lungs showed slight impairment of the resonance

at the upper right, with diminution of breath sounds, and increased vocal fremitus. Tubercle bacilli were found in the sputum. This patient's digestion was seriously impaired by the cod-liver oil and the drugs which he had been taking. All medication by the stomach was stopped, and he was given intratracheal injections daily. The diet was carefully regulated. Milk and raw eggs were given in large quantities. Later he was given a capsule containing iodide of ammonia, sulphate of cinchonidina and codein for a short time. Under treatment the cough, expectoration and temperature diminished. His nutrition and strength improved and his dyspnoea was entirely relieved. Although his gain was very satisfactory, he was advised to spend the winter in the southwest. He is now doing well on a ranch in Arizona. There are two points of interest in this case. First, his gain in strength and improvement in appetite as soon as medication by the stomach was discontinued; second, the ease with which the pul-

monary symptoms were controlled by intratracheal medication.

There is a class of patients who complain of pain or pressure in some portion of the lung, usually at the one or other apex, with every fresh cold. Physical examination does not always reveal any definite signs, except perhaps a consciousness on the part of the examiner that air does not enter that portion of the lung as freely as it ought. This may be termed a "lazy lung." This peculiar and annoying pain is quickly relieved by the injections.

The writer has given thousands of these injections during the past five years, and has never seen harm result. This method offers an exact means of local treatment, and as one becomes more familiar with its use better results follow.

The writer wishes to acknowledge his indebtedness for the assistance rendered by the staff of the laboratory, and especially to E. H. Hayward, who has assisted in all the experiments.

PROFESSIONAL COURTESY.*

P. S. ROOT.
Monroe, Mich.

Mr. President and Members of the Monroe County Medical Society:

I shall scarcely expect to present anything novel for your entertainment or consideration, for the reason that the salient principles of my theme have been written upon since the days of Hippocrates, and are therefore familiar to all. However, an oft-repeated truism is not likely to suffer loss in its logical sequences. I desire that my remarks shall not be con-

strued as having in them anything of a personal nature, or of a distinctively local application, except where we feel that we merit some correction, some admonition, with the view of bringing out the best there is in us, and placing that best where it will inculcate sentiments whose growth and spread will redound to our own happiness and to the welfare of those with whom we associate.

I desire to call your attention to some thoughts upon the rather common subject of courtesy, with its practical bearing on

*Read before the Monroe County Medical Society, Jan. 21, 1904.

our professional conduct. With this object in view, we shall assume that we do not need for the guidance of the members of our brotherhood any other definition of the term than that broad, commonplace understanding which has been accepted by civilized men and nations almost from time immemorial. "Politeness, originating in kindness and exercised habitually" constitutes a code of ethics the rigid observance of which should be seen in every walk of life, in every business career and in all human intercourse. The mere formality, the smile of the deceiver, or the criticism of the cynic, can have no possible place even in this broad generalization. For here it is that one's personality must become the index of his inner self. I fancy there are none of us who would knowingly, and by preference, subscribe to any social edict which did not conform to this standard. The trouble is, we are apt to forget, or we fail to give to sometimes trivial matters that consideration which alone can keep us within the confines of honorable deportment. It has been well said that "it is human to err," and I dare say that many times we attempt to shield ourselves from responsibility by assuming this mantle of charity. To the aggrieved, toleration soon ceases to be a virtue, and sooner or later we find ourselves estimated at our true worth. The moral obligation demands that we should confess our errors and that we should strive to make restitution wherever and whenever possible. If this were done, or even a concerted effort made to accomplish such a result, we should see a medical profession united and irresistible in its influence for good.

Within the past two years a movement has been inaugurated by the profession of this country by which many of the unde-

sirable factors, which have interfered with our social relations, are being eliminated and in their stead is being substituted a mutual desire for a general betterment of the whole. I do not need to tell you that this movement for our emancipation has made wonderful strides in this short time, but with equal candor I must beg you to remember that there is still much work to be done—many things which call for a renewal of our energies in order that we may attain greater results, and make more perfect that which has been so nobly begun. Take, for instance, our own county. There are in this county something over thirty physicians in good and regular standing, and yet there is scarcely one half of this number enrolled in our society. Why should this be so? I think it will be admitted that no man whose mental equipment is such as to entitle him to a "Medical Degree," can afford to ignore the benefits resulting from a membership in some good medical society. With such an incentive, coupled with our individual efforts, it would seem that we should have met with a greater degree of success. May it not be that our partial failure is the result of deficient courtesy? Have we not, perchance, forgotten that we are our brother's keeper? Or have we failed to make our meetings as attractive as they should have been? Perhaps we are not open to conviction upon any of these counts. However, the fact remains, and the evil is not remedied. If example is to be considered more potent than precept, let us make the demonstration so worthy of emulation that none can resist. It follows, therefore, if any of us have been remiss in our professional conduct we should make haste to correct our own faults that we may not serve as stumbling blocks to those who

should be affiliated with our society. In this connection you will agree with me that no society can hope to win respect—lasting respect—unless such a society can offer as an inducement things that are honorable and of good repute. The medical society is not the place where one may invest himself with the cloak of hypocrisy and at the same time hope to carry a convincing influence to those outside. Not to be seen of men, but rather to be admired for our good deeds, is an example the drawing power of which is difficult to estimate. Courtesy that springs from the heart will do much to put aside the idle bickerings and petty jealousies that to-day are all too common in our profession.

Politeness, and the mutual respect which it engenders, will make the settlement of questions involving the professional honor or moral rectitude of our members easy indeed. So, too, shall we be able to adjust the oft-times vexing question of fees. I think it must be taken for granted that there can be no inflexible schedule of prices for professional services, and yet by common consent we have come to regard certain regulations in the light of an unwritten law the infraction of which should be rarely called for. There is no question but that these regulations, as construed by the better class of physicians, are both just to the patient and honorable to the profession; becoming dishonorable only when we, in our mad scramble for gain, practice or preferment, throw courtesy to the winds. While it is a source of regret that the mercenary element must needs occupy so large a place in our dealings, still the fact remains that comparatively few physicians ever acquire even a moderate competency. To-day the doctor finds that

increased expenditures are demanded if he would keep in touch with the perfected methods of scientific research; he finds, too, that the ordinary expenses of living are considerable, while he must barter his services for what they may happen to bring in a market all too sadly demoralized. It is but fair to state that the medical profession is largely, if not solely, at fault for the present condition of affairs, the reason for which is, that the estimated value of our services has been placed too low. Even as low as it is, we allow the public to discount it. We may assume with reasonable assurance that our patients will not place a higher money value upon our skill than we do ourselves; nor will they care to what degree of degradation we may choose to bring ourselves. Comment is, therefore, useless unless we have respect for our profession and respect for ourselves. If the laborer is worthy of his hire, if we respect the dignity of our calling, let our actions be such as will preserve that dignity, and at the same time place the proud distinction of "Doctor of Medicine" somewhat at least above that of the common laborer. More courtesy, with less cupidity and less selfishness, will greatly aid in bringing about this most desirable result. With its consummation we shall be the recipients of more confidence, more appreciation and a higher social status.

Living is not all of life. There are obligations and duties which we owe, each to the other, of more importance by far than the mere controlling of a large practice. Especially is this so if, to win that practice, you have lost your self respect. If the medical fraternity were animated by such a community of interests as would place the stamp of disapproval upon every questionable action, then indeed would

we be in a fair way to realize the ideal of what the medical profession might be. It is said that "all things come to him who waits;" and if so we may yet see the time when every honorable physician will receive a fair and legitimate compensation for his services. The great working field of charity, in which the general practitioner is always in evidence, is among the poverty-stricken poor. 'Tis here that we must expect little or no pay—many times not even gratitude for our work. Such devotion to duty, in the absence of any possible reward, is not to be found in any other profession. It does not follow, however, that indiscriminate giving is an ideal charity or that we should pauperize those who are able to pay an honorable fee. The principle of self-preservation demands of us that we make some provision for that time in our lives when we shall no longer be able to work. The proverbial "rainy day" is a factor not to be ignored. To the medical profession is given a degree of latitude in governing its members not usually found in other

organizations, scientific or otherwise. We are not restricted by unions, walking delegates and the like, but we stand forth as men whose nobility of character is our most precious asset, to preserve which we should bend every honorable effort. Therefore, if the question of fees is of vital importance let us bring to its solution that loyalty of purpose and mutual respect which knows no failure.

In conclusion, permit me to say that so long as we are a trade body we must expect competition, but let it be an honorable competition, free from questionable motives, ex parte snap diagnoses, and from insidious inuendoes. The re-organization of the state and county medical societies has for its object the promotion of such a state of brotherly consideration as will make easy these reforms at which I have hinted. If the time is propitious and the opportunity ours, let us extend the glad hand of fellowship, prompted by professional courtesy.

"Therefore, all things whatsoever ye would that men should do to you, do ye even so to them."

RECENT PROGRESS IN LARYNGOLOGY.*

WADSWORTH WARREN,
Detroit.

In the progress of laryngology during the past two years, there has not occurred anything of epoch marking importance, although there have been many features which show decided improvement in instrumental technic and increasing familiarity with pathological processes and conditions. Increasing knowledge of this special line of medicine is apparent to every one. The small towns, as well as the large

cities, are supplied with fairly competent laryngologists. Speaking in a general way, perhaps one of the most hopeful features in this line of work is the importance, which is coming to be placed upon general or systemic conditions as affecting local states in the nose and throat. A good outline of this can be had from the admirable work of Friedrich. His publication came out in the latter part of 1900, but it was read more freely during the past year.

*Read before the Detroit Academy of Medicine, Jan. 26, 1904.

There seems to be a certain proportion of the older laryngologists who are content to use the work already done and to be satisfied with it without further attempt at progress. Another considerable part supply a great deal to medical journals without adding materially to the sum total of laryngologic knowledge. A few keep on working ceaselessly, and to them we are indebted for certain features of our work, marking improvement and progress.

To my mind the most hopeful feature of the past year or so has not been so much the making of new instruments as a greater change in our method of operating and the after care of cases, which more nearly approximate the best known principles of general surgery. As an example of this, I might cite the well known Asch operation for deflection of the septum. Special instruments and splints are required for this and, under the use of Asch's technic, every form of deflection of the septum, quite regardless of the nature of the deformity, was treated alike and each subjected to this arbitrary method. At present, nearly every laryngologist of scientific attainment operates upon deflected septa very much according to the indications of the individual case. Scarcely any one nowadays attempts the Asch operation pure and simple.

With reference to the nose, an investigation undertaken by E. S. Talbot is worthy of notice. His statistics show that he has made an examination of 11,000 skulls, but on account of fragility of the septum, only 7,600 had enough of this portion remaining to give an idea of its shape. Five thousand six hundred and seventy-two of this number showed marked deformities. He is not of the opinion that traumatism is in any large measure re-

sponsible in the production of deflections. The theory that the deformity is primarily the result of traumatism, due to an injury in utero or at the time of delivery, or even later, will not account for such a large number of these. The theory of Trendelenburg, that these deformities are due to a crowding up of the high arched palate, is likewise not true, because an arched palate never occurs with the first set of teeth.

The results of the work of Watson, dental surgeon, along this line, given before the Laryngologic Section of the Wayne County Medical Society last March, furnish a good illustration of the relations existing between high arched palates and the permanent teeth, as influenced by mouth breathing, due to adenoids and enlarged faucial tonsils. The deflection of the septum must, further, depend upon the walls of the nose and the turbinates, which ossify before the septum. Hence the septum must adapt itself to the location of these bones.

Regarding the external deformities of the nose, the method of paraffin injections, first suggested by Gersuny, has been wisely used during the past two years. This method is applicable to a variety of cases. It has become a powerful adjunct to the knife in plastic operations. Various authors have modified the technic in different ways. Quinlan has an ingenious method for keeping the paraffin mixture warm, to prevent its setting too early. He uses an ordinary glass anti-toxin syringe with a needle of large calibre. This is incased in a metallic jacket, through which water runs at a temperature approximately 125° F. The hood or jacket is fed from a receptacle placed two feet above the operator, connected by a small rubber tube.

A good deal of attention has been paid to operations for the correction of deflec-

tion of the septum. Freer of Chicago has perfected a technic for the relief of this condition, somewhat similar to that of Fletcher Ingals. He uses small angular knives for cutting away redundant cartilage and dental spuds for separating the mucous membrane from the underlying cartilage and bone. Redundant cartilage is removed with the former and the bone with a trephine or small chisel. Roe of Rochester has been very successful in this line of work, although I am not aware that he has published anything of note during the past year. He has some very ingenious septum forceps for destroying resiliency of the cartilage. He removes redundant tissue and keeps the septum in place by splints until healing has occurred.

Regarding perforation of the septum, but little that is new has been adduced. In my opinion, the work of Zuckerkandl remains the most classical information we have on the subject.

Regarding the turbinated bodies, some new scissors for the removal of part of the lower turbinate, have been devised by Dunn of Erie, Penn., and are made by Meyrowitz. These scissors have very strong handles, while the blades are comparatively small, although strong, and have serrated edges. The same firm in their last bulletin, described a new nasal file, designed by Fetterolf of Philadelphia. The cutting portion of this instrument has a serrated border, cutting $\frac{1}{2}$ on the pull and $\frac{1}{2}$ on the push, while the sides of the cutting portion are milled like a file across the surface. On the whole, there is less tendency on the part of the laryngologist to remove any decided portion of the lower turbinated bodies, than was the case four years ago.

In regard to ozena, the etiology is still a much discussed point, with as yet little

agreement between various investigators. Grünwald of Munich, not long since, presented his views on the subject, taking the ground that disease of one or more of the accessory cavities is the etiologic factor in ozena. The adherents of the microbe theory, as to the causation of this disease, have been as busy as usual, but have not afforded us any results upon which we could base successful treatment. Simple local and general measures, are considered to yield results which frequently amount to a practical cure. It is generally agreed that all the dry and putrescent secretions must be removed by some means or other before local applications can have any marked effect.

In the matter of therapeutics, supranasal extract and its derivative, adrenalin chloride, are in general use and evidently have a definite position in rhinology. The limited application of super-heated air to the mucous surface in the upper respiratory tract, has recently received considerable attention and several observers report that it has a favorable action in some forms of rhinitis, asthma, otalgia, and other affections, depending upon vascular disturbances, rather than on conditions of chronic hyperplasia.

Regarding diseases of the accessory sinuses, there has been a growing tendency toward intranasal and more conservative methods of treatment. Reaching the maxillary sinus by a puncture beneath the border of the lower turbinate, probing the frontal sinus, after amputation of the anterior part of the middle turbinate, and reaching the sphenoidal sinus by probing the natural opening and enlarging this where necessary to secure drainage.

The subject of the pharyngeal tonsil has received the usual amount of attention, although I do not know that anything of

special interest has been developed along this line.

Regarding the tonsils, considerable work has been done with reference to the microorganisms which are likely to produce membranous exudates on the faucial tonsils. Massei groups these into three classes: 1st, Cocci-streptococcus, staphylococcus, and Roux's coccus; 2nd, Bacilli-Klebs-Loeffler, colon and leptothrix; 3rd, fungi-oidium albicans. These are practically always mixed and the exudate is influenced, not so much by nature, as by the severity of the process. The importance of accurate local treatment in acute tonsillitis, is becoming better understood. Crypts, filled with exfoliated epithelial cells, leucocytes, bacterial debris, and fibrin, should be evacuated and the surface of the crypt cleansed by means of a suitable antiseptic. Regarding instruments for the operation of tonsillotomy, the old reliable Mathieu tonsillotome is still in evidence, but a host of new appliances have been introduced and some of them are of important assistance. The triangular cutting punch, Casselberry's tenaculum forceps, and Robertson's scissors may be mentioned among the best of these innovations.

Regarding the larynx, operations for malignant disease seem to show a less gloomy outlook than in the past. The reports of Moure of Bordeaux and Glück of Berlin presented to the British Medical Association last summer are quite complete. Glück's results are remarkably good. Moure's article appeared in the journal of Laryngology of Dec., 1903. With most others, he agrees that medical treatment and most all endo-laryngeal operative interference is useless, where there is reason to suspect malignancy. He lays stress upon the removal of all infected glands in

the neighborhood of the growth. He speaks with much commendation of the operation of thyrotomy after preliminary tracheotomy. Sir Felix Semon has also done a good deal to bring this operation into esteem. A long incision is made from the hyoid bone to the episternal notch, using great care to have the incision exactly in the middle line and dissection is made slowly layer by layer, then, when all hemorrhage has been controlled, the larynx and trachea laid bare. The tracheotomy is made just below the first or second tracheal ring. Operating in this way, the field is brought well into view, so that the operator is able to get at much more of the diseased tissue than in any other way. All observers remark upon the amount of vocal power some of these patients possess, even after removal of a considerable portion of the larynx.

Good work has been done during the past year in the study of hay fever. Dunbar of Hamburg, Germany, published a monograph detailing a long series of experiments, which he had made regarding the pollen of the gramineæ, as the cause of the early summer and spring hay fever of the continent. He was able to isolate from the pollen of the maize a toxine, which would cause, when placed in a weak solution on the conjunctiva of any hay fever patient, an acute typical paroxysmal attack. With this toxine, he produced an anti-toxine, which he used to some extent himself and which was used by Sir Felix Semon of London and by Emil Mayer of New York City. While the results of the use of this antitoxine were not brilliant, they seem to attain a certain success, and are to be given a further trial. Otto Scherer of this city, in a paper read before the Laryngologic Section of the Wayne County Medical Society Jan. 26, 1904,

gave in detail an account of some original work which he had done along this line. His experiments were conducted with a view of determining the cause of the autumnal type of hay fever found in this country. These have led him to consider the pollen of the rag weed (*ambrosia artemisiaefolia*), as being the chief cause and factor in the production of the paroxysms of hay fever. His paper was not conclusive, as he himself stated, and was more in the nature of a preliminary report. He was able to isolate from this

pollen an alkaloidal material, which he denominated ambrosine. By the local application to the conjunctiva and by subcutaneous injections, in exceedingly dilute solutions, he is able to bring on a paroxysmal attack of hay fever in hay fever patients at all seasons, but the same application in immunes has no effect whatever. Both of these investigators practically ignore the two other factors which have generally been supposed to have an important bearing upon these cases, viz: some constitutional condition, and a local pathological state in the respiratory tract.

EPILEPSY AS VIEWED FROM THE STANDPOINT OF A SUFFERER.

Inasmuch as it is so difficult to get the subjective symptoms of those afflicted with epilepsy, I submit the following letter, which is an unusually clear expression of the sensation of a sufferer during an attack. The communication is the result of conclusions arrived at on the part of a bright young man who has no medical training but who has had sanitarium treatment and free access to medical literature. It is pathetic in its earnestness.

Very truly yours,

J. E. CLARK.

Detroit.

DEAR DOCTOR—In my case the species of epilepsy is that known as false, wherein the patient is forewarned of an attack through an aura which lasts for about one minute before unconsciousness takes place. I am 26 years of age and have had attacks for 10 years—one attack the first, and gradually increasing to 20 the last year. Am physically and mentally sound, and always have been so; no vices nor bad habits; no injuries to body or head during

youth, nor any diseases which left any noticeable evil effects; no hereditary weaknesses or deformities, a long-lived, hardy race on both sides of family. Weight 140 pounds. Height five feet ten inches.

The first attack happened at night during sleep and from no perceptible cause. In the course of three years thereafter I began to be troubled with heartburn, just below the æsophagus, and with flatulence. The stomach conditions gradually became worse as the attacks increased in number. Nevertheless, there would often be long periods when the stomach trouble would be inconsiderable and general health seemed to be excellent.

During youth I had sick headaches, usual in young people, but for ten years I have had none, though my stomach is often very foul. Have always been a good eater and always have a craving and insatiable appetite, notwithstanding the condition of my stomach.

GROWTH OF SYMPTOMS AND PROGRESS OF SENSATIONS LEADING UP TO AN ATTACK.

The first symptomatic feelings of a threatening attack (which may happen at any indefinite time beforehand) are momentary auras and a nervousness which is near akin to a continual excitement, having a contracting effect on the muscles.

Co-incident with the above symptoms, are heartburn from excessive secretion of gastric juice, eructations of gas in large quantities, violent peristaltic action, and palpitation of the heart.

There is no particular condition or time during which I may be taken with an attack—perhaps I've had the greatest number at or soon after meals.

During an aura which ends in a convulsion the sensation is that of great excitement, hands become numb and muscles in neck contract first, along with those in hands, though mind is clear even after having fallen, cannot see, and body is in a convulsive state. I have run nearly an eighth of a mile during an aura before an attack.

CONVULSIONS AND AFTER EFFECTS.

The convulsion lasts about one minute, when the muscles relax, and I sleep quietly for 15 minutes usually. My mind and head feel bad and dull for a day or so afterwards and then my normal brightness returns.

Following an attack for about 24 hours there are sympathetic auras occurring at irregular intervals which are overcome by releasing the gas and pressure from stomach. These sympathetic auras have the same sensations as those which end in an attack; though gas has been released from stomach before an attack with no effect. There is not usually much

trouble from gas immediately before an attack.

A few times when I have had a rather light attack I would have another and harder one, though always within 12 hours.

Soon after the disappearance of sympathetic auras there is generally a few days of good feeling when the alimentary tract acts perfectly, foods all agree, and no trouble from nervousness is experienced.

MISCELLANEOUS FACTS AND QUESTIONS.

While eating a very heavy diet and when the food from one meal to another was literally forced through the stomach, I have gone the longest periods of time. A light diet always encourages nervousness and its contemporary troubles. There is often liberated from the stomach more gas than is possible to be secured from fermentation under the best of conditions, and when the stomach contains no food. The gas liberated is mostly CO_2 .

The attacks seem to be the result of a gradually increasing violence of the peristaltic action ending in a convulsion, during which the muscles of the diaphragm are rigid in nature's struggle to force down or out of the stomach the irritating cause of the disease.

If the system can work perfectly for a few days after an attack, can there be any organic trouble of the nerves?

Why is it that a convulsion remedies the trouble for a short time and then it appears again?

Is not nature always laboring, even fiercely at times, to overcome our enemies, though always in her own way?

Does this irritating cause of the disease lie in and as a part of the system, or is it entirely separate?

If it were the former, would your patient be attacked at night after many

hours of peaceful sleep, when, of all times, the nervous system is in quiet and at rest?

The stomach and intestines are very sensitive to any foreign matter within them, as shown by worm fits in man and beast.

Many very curious things have been found within the intestinal tract, such as lizards, snakes, worms, etc.

Not a few people have been cured of epilepsy similar to my case by the release of parasites from the alimentary canal even after many years of trouble.

Many physicians put forth the theory that toxic poisoning is the underlying cause of this disease. Without doubt the accumulation of toxins and other poisons within the alimentary canal produces an increasing irritation which in time nature overcomes only by the most violent convulsions; but these convulsions are not the disease, they are only nature's struggle to overcome the impediments and to settle down again into her ways of peace. Nature never declares war, never fights

unless attacked, never subjugates, conquers or destroys. Her ideal is harmony and her policy is always peace and forbearance.

Physicians say toxins are manufactured by microbes. Admitted. Our whole body, though, is a toxin factory; and there is always some toxin to be found in stock or some that is slow in getting out. In all animals in health, toxin is expelled from the body through particular channels which are altogether separate from other parts. These excretory channels in our bodies are the skin, lungs, and kidneys. If, doctor, you accept the statement that nature is always laboring to overcome our enemies, would it not be ridiculous to suppose that nature is manufacturing toxins and then disposing of them for her own destruction? Again I put the question: Does the irritating cause of this disease lie in and as a part of the system, or is it entirely separate? May not these irritating toxins be the product of some part of the body other than the alimentary canal?

Uncinariases in the South.—Conclusions:

1. Uncinariases is one of the commonest diseases in the South (it is believed).
2. It is the chief cause of anemia in children.
3. Adults, if not too badly infected, seem to outgrow it.
4. Ground itch is intimately associated with uncinariases.
5. Infection most probably arises from contamination of the hands and later by swallowing the embryos.
6. Infection, other than through the mouth, is thought to be very improbable.
7. It is impossible to infect man with uncinariases of dogs or of other animals.
8. Prophylaxis.
 - (a) Establishment of privies.
 - (I.) That can be easily cleaned and disinfected.
 - (II.) That are closed below.
 - (III.) That are so constructed that the discharges are not scattered over the adjacent soil.
 - (b) Children should use only these privies.
9. Treatment:
 - Thymol and castor-oil. (*American Medicine*, Jan. 9, 1904. Louis M. Warfield, Savannah.)

Liquid air will

1. Produce local anesthesia, because it freezes.
2. Reduce inflammation, whenever cold is indicated. In this case either the vapor or vessels containing the liquid, or liquid air itself can be used depending upon the degree of cold desired.
3. Produce inflammation; therefore local stimulation by producing a perfect localized anemia, which is always followed by congestion.
4. Produce a slough, by causing an obliterating endarteritis and destroy the nerve supply in a growth, by repeated freezings.
5. Produce oxygen, either in liquid or vapor form, and lastly,
6. The use of liquid air has the effect of an antiseptic. Although it does not destroy pure and virulent culture of germs, it aborts their activity for a time and with the assistance of the local congestion of the parts following the use of liquid air, nature more easily overcomes and destroys the germ activity. (*Med. Record*, Jan. 16, 1904. A. Campbell White, New York City.)

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Editor A. P. Biddle, 57 Fort Street West, Detroit, Mich.

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Editorial

THE DEVELOPMENT OF THE BRANCHES IN THE MICHIGAN STATE SOCIETY.

Some officials think that the only practical method of development of State Society Branches consists in "rendering the scientific part of their meetings as good as possible." Certainly this is fundamental—to create and maintain a good market, the salesman must have the best goods for the price, and have them constantly. No society will long prosper that does not regularly furnish the best obtainable papers, discussions, etc.

But in medical societies, as in business, more is needed than the possession of the best goods. The existence of good programmes must be carried to outsiders, by those cognizant of the fact. In short, the officers and members must hunt up new customers and persuade them to invest in the society's goods. No medical society or any other good thing long prospered that did not "make its light shine." Hid under a bushel basket, the best of light is useless; so the best of medical societies is doomed to darkness unless active effort spreads its light into the remotest corners. Make it clear to every doctor that a medical society has rest for the weary,

knowledge for those seeking it, help for the perplexed, and good cheer for all, and their presence at regular meetings will be certain.

Unlike its predecessors, the present evolution of the Michigan State Medical Society aims to secure the active co-operation of every doctor within the borders of this State. Those in harmony with its spirit and method, need only to be convinced of its genuine helpfulness, to contribute their personal effort. Others must be approached, made to realize their errors, induced to drop them and persuaded to work in harmony with "the medical profession."

It is clear that this scheme calls for intelligent, sympathetic, persistent work—work by every official in each Branch as well as of the parent society. It calls for similar work from every member of existing Branches. In season and out all of these must seek three things: 1, make the meetings better; 2, tell outsiders thereof and of the sympathetic helpful brotherhood that is being developed and, 3, persuade them to join their Branch and engage in the same beneficent mission.

All this movement is outside of either cliquism or politics; it began and is continued in the spirit of the highest good to all, the greatest to him who sacrifices most for the benefit of his Branch or other Branches. It aims to bring about that condition when both laity and profession can respect every doctor in the State.

It is easy to see that the ways for soonest attaining this object are infinitely varied, according to the personality and conditions surrounding individual doctors and separate Branches.

DR. EDMUND ANDREWS.

Dr. Andrews died January 22, aged eighty, as the result of an operation Jan. 17th for stone in the bladder, plus the feebleness of advanced years. He was born in Vermont, but with his parents removed in the thirties to Michigan. He was a graduate both of the literary and medical departments of the University of Michigan. He was the first Demonstrator of Anatomy in that University, and as such he had charge of securing anatomical material, so breaking the laws of the State. He was the founder and editor of the first medical journal published in Michigan, the *Peninsular Medical Journal*. He was an able, enthusiastic teacher of large abilities and clear cut thought. The history of that early date shows that he possessed large possibilities, and as a resident of Michigan, we regret the attraction which called Dr. Andrews to Chicago.

He was a professor for three years in Rush Medical College, when he joined Dr. N. S. Davis, H. R. Johnston and others in founding the old Chicago Medical College, on the basis of a longer course and graded method of teaching. For forty-eight years as a teacher and a practitioner of surgery, he was a noted figure in the medical life of Chicago. His numerous students, and his many written articles testify to his ability as a teacher and his soundness as a practitioner. As a surgeon during the Civil War he ranked high—as shown by the Medical and Surgical history of the War of the Rebellion.

He was an ardent student in science outside his calling. Thus in 1854 he founded the Chicago Academy of Sciences and was long an active worker therein.

Of large native ability, thorough training, possessing the native talent for a medical career, kindly toward all while adherent to his own thinking, indefatigable to know and do all that was possible, he was such a character as to command both confidence and respect. The medical history of both Michigan and Illinois will exhibit him clearly as among the leading men of his time, in moulding the profession and uplifting the laity.

RÖNTGEN RAY.

In 1895, W. C. Röntgen of Würzburg discovered that a screen of barium-platino-cyanide fluoresced when exposed to a Crookes tube which had been covered with cardboard, thus cutting off all the light. He further discovered that even if one placed a book two or three inches thick between this tube and screen, the screen still fluoresced. Pursuing this still further, he found that this cardboard covered Crookes tube had an active influence on a photographic plate. With unusual modesty Röntgen called these invisible rays the "unknown," or X ray.

As to the nature of the ray, Röntgen thought they were due to longitudinal vibrations of ether. In 1883, Weidemann of Leipsic advanced the opinion that the "cathode" rays were light waves of extremely short wave length, far beyond the violet light waves of the spectrum. This theory has been applied as to the nature of the "Röntgen ray," and is the view most generally accepted to-day. Francis LeRoy Satterlee, Jr., of New York City, devised the appended chart (*Medical Record*, Jan. 16, '04) which gives one a clear yet concise conception of this view.

There has been much discussion during the seven and one-half years since Röntgen discovered the rays which so frequent-

of X-ray "burns." These were at first thought to be the result of the electricity given off from the tube. Later another theory was proposed, namely, that the "burn" was due to an irritation of the skin brought about by the minute particles of platinum which were thrown off and imbedded in the tissue. T. C. Gilchrist, of Baltimore, showed that this view was not correct by having a portion of the "burned" tissue examined chemically for traces of platinum with a negative result. Robert Keinbock of Vienna presented the following theory, which is the one most generally accepted today: He found that the so-called X-ray "burns" occurred (1) much more frequently with low-vacuum tubes (which are far more rich in tri-ultra violet rays) than with high-vacuum tubes, and (2) that "burns" could not be produced if the tube was placed so that the target pointed away from the patient. If the "burns" were due to the electricity given off, then "burning" of the tissue would occur with the target pointing in any direction, as the "bulb" is charged equally with electricity on one side of the anode as on the other. But this does not occur.

The practical question in regard to the Röntgen ray is, What can one accomplish with it? There are two ways of using it:

- (1) Fluoroscopy—where the fluoroscope is employed and the part examined through it.

- (2) Radiography—where photographic plates take the shadow of the object examined. Generally speaking, this latter is the more accurate and satisfactory method.

As an instrument for diagnosis, the ray has been quite extensively used, as in surgical cases to diagnose fractures, tumors, presence of foreign bodies and the

		TRI-ULTRA-RED	
		or	
		HERTZIAN RAYS	
		Wave length, some meters	
Heat Rays	{	BI-ULTRA-RED RAYS	
		Wave length, 18 microns	
		ULTRA-RED RAYS	
		Wave length, 8 microns	
		RED	
		Wave length, .71 micron	
		ORANGE	
		Wave length, .66 micron	
		YELLOW	
		Wave length, .62 micron	
		GREEN	
		Wave length, .53 micron	Optical Rays
		BLUE	
		Wave length, .49 micron	
		INDIGO	
		Wave length, .41 micron	
Chemically Active Rays	{	VIOLET	
		Wave length, .38 micron	Pinsen Rays
		ULTRA-VIOLET	
		or	
		CATHODE RAYS	
		Wave length, .21 micron	
		BI-ULTRA-VIOLET	
		or	
		BEQUEREL RAYS	
		Wave length, .1 micron	
		TRI-ULTRA-VIOLET	
		or	
		RÖNTGEN RAYS	
		Wave length, .014 micron	

ly bear his name, concerning high and low vacuum tubes. Satterlee in the same article gives some of the main differences between these two variety of tubes.

HIGH-VACUUM TUBES.

One-millionth per cent. vacuum.
Hard tubes.
Small volume of rays.
More penetrating rays.
Giving off more electricity.
Less contrast in radiograph.
Bones white with fluoroscope.
Less danger of dermatitis.

LOW-VACUUM TUBES.

One-thousandth per cent. vacuum.
Soft tubes.
Large volume of rays.
Less penetrating rays.
Giving off less electricity.
More contrast in radiograph.
Bones black with fluoroscope.
More danger of dermatitis.

Of a great deal of interest both to the patient and the physician, is the question

like. Some use has been made of it as a help in diagnosing non-erupted teeth, disease of pulp-canals, etc. As an aid to instruction in physiology and anatomy, the Röntgen ray may become of some assistance to the teacher.

This ray is now being quite thoroughly tried out as a therapeutic agent. In superficial inflammatory diseases, as chronic folliculitis of upper and lower lip, chronic seborrhœic eczema, chronic acne rosacea, chronic acne, most satisfactory results are obtained for the patient (A. P. Biddle, Detroit). Arthur D. Bevan of Chicago writes in regard to carcinoma, that if it is very thin and very superficial, as an epithelioma of face or rodent ulcer which has not as yet involved the tissues beneath the skin, the X-ray treatment will cause it to disappear. If, however, the epithelioma is a thickened mass of new tissue as are epithelioma of lower lip, the results are apt to be unsatisfactory. (*Jour. of Amer. Med. Assoc.*, Jan. 2, '04.) The treatment of a deep seated cancer is also unfavorable as far as a cure goes. A. E. Carrier of Detroit reports a case of mycosis fungoides (*Jour. of Cutan. Diseases with Syphilis*, Feb., '04). The doctor writes: "In a disease so universally fatal as mycosis fungoides, any treatment that even for a time seems to stay the progress of the affection or relieve it of the distressing subjective symptoms, will be heartily welcomed. After a treatment for about three months with the X-ray, there was present no evidence of disease, save the presence of pigmentation in the sites of the larger tumors. Whether the patient is cured or not, it is too early to say, but in this instance it has undoubtedly stayed the progress of the disease."

The tri-ultra violet ray is now being used on a great number and in a widely

diversified class of cases. What the outcome will be, it is impossible to say. However, it can be truly said that there are many thousand people, who are apparently perfectly well to-day, who would still have been afflicted with disease and pain, had not the "unknown" ray of Röntgen been discovered.

SECOND CALL FOR PAPERS.

Every member of the State Society desiring to read a paper at the next Annual Meeting of the State Society, May 25th, 26th and 27th, at Grand Rapids, will please send the title of his paper to the Secretary of the Section before which he desires to read the same as soon as possible, not later than March 10th.

NEWS ITEMS.

Dr. Elmer F. Otis, of the medical staff of the Battle Creek Sanitarium, and Dr. Clara L. Beckner, of Boston, Mass., were married Jan. 1, 1904. They will make their home in Battle Creek.

The two factions in New York State have finally united in a common purpose.

The fees of the College of Physicians and Surgeons of New York are raised from \$200 to \$250 per year. Students who are not candidates for a degree will pay \$25 per year for each hour of weekly attendance in various lectures and recitation courses.

January 14th L. E. Maire, of Detroit, was elected a member of the Board of Directors of the Wayne County Medical Society, to fill the vacancy caused by the resignation of A. D. Holmes.

The Ann Arbor Medical Club held a meeting in Ann Arbor Jan. 21st.

The Northeastern District Medical Society of Michigan held its fifty-second annual meeting at Port Huron, Feb. 4th.

COUNCIL OF MICHIGAN STATE MEDICAL SOCIETY.—MINUTES OF MEETING.

The meeting was called to order Jan. 26th, 1904, 1 p. m., in Hotel St. Clair, Detroit, by Chairman Connor. Those present were: Connor, Bulson, Carnes, Welsh, Willson, Small, Landon, Dodge, Felch, Haughey, President Breakey and Secretary Biddle of the State Society.

The report of the editor of the *Journal* was read and adopted. He suggested that as the detail work of the *Journal* had become too great for one person, it be put in the hands of another and that the editor be empowered to appoint, for the next year, a managing editor, subject to his supervision.

As the *Journal* has on hand more material than can be used within its appropriation and this is steadily increasing, he requested that the editors be given full power to decline papers already published and to abstract others when circumstances forbade their entire publication.

The report of the Secretary of the State Society was read and approved.

REPORT OF COMMITTEE ON FINANCE.

Your Financial Committee has examined the reports of the Treasurer and Secretary, compared the vouchers and finds the same correct. Your committee recommends that the Secretary be instructed to procure bids from publishers throughout the state upon printing, binding and mailing the *Journal* and that he be empowered to accept the lowest bid offered, and, if necessary, change the location of the *Journal* office of publication. Respectfully submitted,

W. T. DODGE,
LEARTUS CONNOR,
S. I. SMALL.

Moved by Dr. Haughey that the report and recommendation of the committee on finance be adopted. Carried unanimously.

Your committee, to whom was referred the report of the editor of the *Journal of the Michigan State Medical Society* recommended that the request for a managing editor be granted, and it begs to request that the editor be instructed to decline any paper which has been published in any other journal, and that he abstract or request the author to abstract such papers as in his judgment cannot be published in full. In regard to rates of advertising, etc., his own judgment is better than ours on account of his familiarity with that branch of the business.

We again request the secretaries of county societies to secure suitable advertisements for the *Journal* to the end that we may augment its finances.

Signed,

M. WILLSON,
D. EMMETT WELSH.

Moved by Dr. Haughey that this report together with the recommendations be adopted. Supported and carried unanimously.

Dr. Welsh, of Grand Rapids, reported that the work of preparing for the meeting of the State Society in May was progressing very nicely. All committees had been appointed and were doing good work. Much interest prevailed. There would be about forty exhibits, which would be upstairs and by themselves. Headquarters had not yet been decided upon. The first evening would be devoted to an entertainment of some character, while on the second a discourse by some eminent doctor would be given.

He reports his district well organized and that much interest prevails therein.

Dr. Connor suggested that a membership card be presented to every doctor who affiliates, on the back of which is printed the advantages of his membership in the organization. This was referred to the committee on County Societies.

Dr. Dodge of the 11th district reported a well organized district with eight county societies. He visited Muskegon County for Dr. McMullen of the 9th district, and thinks it hardly advisable to try to organize there at present, but desired that Dr. Welsh be authorized to approach the individual men and get them to join the Kent County or one of the adjoining societies. Dr. Dodge was in favor of redistricting the state so as to make it easier for the individual Councilor to make his circuit.

Dr. Willson reported a very harmonious district with one exception, St. Clair County. He suggested that the State Society House of Delegates consider such revision of the Constitution and By-laws so that a majority vote would admit to membership, as some of the counties require a two-thirds vote and some three-fourths of those present. He also considered that the clause that "any member of the society who consulted with these men is subject to expulsion" ought to be eliminated.

Dr. Carnes reported his district in a flourishing condition. There was a little friction in Berrien County.

Dr. Felch reported that at Marquette the plan of having clinics has been adopted. All meet-

ings are followed by lunch after which the evening is passed in social converse enlivened by a visit to the smoking room or bowling alley as the individual desires. This creates good fellowship.

Dr. Bulson of the second district reported that at the annual meeting of the Jackson County Society a clinic was held. They are endeavoring to bring in the younger element of the physicians, and as they come in touch with the work they become interested and join. He is in favor of redistricting the state for the convenience of the Councilor's work.

Dr. Haughey of the third district had received no reports from any of the county societies; however they are all in good working order. He considered that some counties hold too frequent meetings. Quarterly meetings would probably be better attended than monthly ones. He also advised the necessity for all county societies to hold their annual meeting early enough so that they can get their reports in by January first.

Dr. Landon reported the tenth district in a flourishing and prosperous condition with a gain in membership in nearly all the societies.

An intermission was here taken for dinner, after which it was moved by Dr. Willson and supported by Dr. Haughey that Dr. A. P. Biddle be re-elected Secretary-Editor of the society for the ensuing year. Carried unanimously.

Moved by Dr. Haughey, supported by Dr. Bulson, that Dr. Chas. W. Moran be re-elected Treasurer for the ensuing year. Carried unanimously.

Moved by Dr. Haughey that the salary of the Secretary-Editor be the same as it was last year. Supported and carried unanimously.

Moved by Dr. Willson and supported by Dr. Haughey that a vote of thanks be tendered Dr. A. P. Biddle for his earnest, persistent and intelligent labors as Secretary-Editor. Carried unanimously.

Moved that the Chairman of the Council be empowered to formulate membership cards to be given as a receipt for dues to each member and to have printed on the back in as compact form as possible the advantages which his membership brings. Supported and carried.

The Council adjourned to meet at 7:30 p. m., at the Morton House, Grand Rapids, Tuesday, May. 24, the day before the meeting of the State Society.

W. H. HAUGHEY,
Secretary of Council.

County Society News.

DELTA COUNTY.

Delta County Medical Society held its annual meeting at Gladstone, Jan. 21st. The following officers were elected:

President—A. F. Snyder, Escanaba.

Vice-President—Geo. Björkman, Gladstone.

Secretary—H. W. Long, Escanaba.

Treasurer—Wm. Elliott, Escanaba.

Director for three years—A. L. Laing, Rapid River.

Delegate—O. E. Youngquist, Escanaba. Alternate, H. W. Banks, Escanaba.

H. W. LONG, Sec'y.

EATON COUNTY.

Eaton County Medical Society held its second annual meeting at Charlotte, Jan. 28th. The following officers were elected:

President—C. H. Meade, Olivet.

Vice-President—C. A. Stimson, Eaton Rapids.

Secretary-Treasurer—W. H. Rand, Charlotte.

Delegate—G. B. Allen, Charlotte.

The Society now has a membership of 27 physicians.

W. H. RAND, Sec'y.

GRAND TRAVERSE COUNTY.

Grand Traverse County Medical Society held its annual meeting Jan. 8th, at Traverse City. H. B. Anderson was elected President; E. B. Minor, Secretary; A. S. Rosenthal-Thompson, Delegate, and H. B. Garner, Alternate.

E. B. MINOR, Sec'y.

MACOMB COUNTY.

Macomb County Medical Society held its annual meeting in Mt. Clemens, Jan. 28th.

There are 59 physicians registered in this county; 38 are now members of Macomb County Medical Society.

The following officers were elected for the ensuing year:

President—P. A. Knight, Mt. Clemens.

Vice-President—Wm. Greenshields, Romeo.

Secretary-Treasurer—Joseph M. Croman, Mt. Clemens.

Delegate—James Yates, Roseville.

Alternate—H. G. Berry, Mt. Clemens.

The President, P. A. McKnight, made a short address, which was much appreciated by those present.

JOSEPH M. CROMAN, Sec'y.

MONTCALM COUNTY.

The Montcalm County Medical Society held its quarterly meeting Jan. 7th, at Edmore.

F. R. Blanchard, of Lakeview, read a paper on "Typhoid Fever—Differential Diagnosis."

Abstract—

The diagnosis of typhoid fever is not always an easy matter, notwithstanding the fact that the advance of science has brought to our assistance many valuable helps.

The cardinal diagnostic signs are:

- (1) The peculiar temperature curve.
- (2) Rose spots.
- (3) Splenic tumor.
- (4) Dicrotic pulse.
- (5) Epitaxis (sometimes).
- (6) Diarrhoea (sometimes).

To these may be added:

- (7) Diazo reaction in the urine.
- (8) Widal serum test.

A negative result of (7) and (8), however, does not exclude typhoid.

The paper then takes up the differential diagnosis between those diseases simulating typhoid fever and typhoid fever itself.

In closing the writer dwells strongly on the fact that, owing to the vast importance of prophylactic disinfection, it is best to accept the dictum, that typhoid is to be suspected in every case of continued fever, running over a period of seven days. This is especially so, if the fever resists the action of quinine.

Richard R. Smith, of Grand Rapids, read a paper on "Carcinoma of the Breast." Diagrams showing vividly the operation for excision were presented and were of great interest.

A. W. Nichols, of Greenville, reported several surgical cases.

W. F. Dodge, Councilor for Eleventh District, was present and added much to the interest of the meeting.

L. S. Crotzer, of Edmore, was elected delegate to the State Society, and F. R. Blanchard alternate.

H. L. BOWER, Sec'y.

SCHOOLCRAFT COUNTY.

Schoolcraft County Medical Society held its annual meeting in Manistique, Jan. 11th. J. M. Sattler was elected President, and G. M. Livingston, Secretary.

TUSCOLA COUNTY.

Tuscola County Medical Society held its annual meeting Jan. 11th at Vassar.

President A. L. Seeley read his annual address. He dwelt at length upon the status of the Board of Supervisors in relation to Doctors' bills for the treatment of smallpox and other contagious diseases.

The Society authorized the president-elect to appoint a committee to draft resolutions, to be presented to the Board of Supervisors at their next annual meeting, stating fully the position of the physicians of the county in regard to these cases.

S. I. Small, of Saginaw, Councilor for the Eighth District, gave the Society a short talk, complimenting Tuscola County Medical Society on the work already done and stimulating the members to make a still greater effort to get every physician in the county into the County Society.

George Bates, of Kingston, read a paper on "The Physician's Duty to Pregnant Women."

Six members were received at this meeting, making a total of twenty-five who have joined the Society, out of the forty-seven eligible physicians of the county.

The election of officers for the ensuing year resulted as follows:

President—P. J. Livingstone, Caro.

Vice-President—B. D'Arcy, Caro.

Secretary—W. C. Garvin, Millington.

Treasurer—F. D. LeValley, Vassar.

Delegate—A. L. Seeley, Mayville.

Alternate—A. E. Copp, Tuscola.

W. C. GARVIN, Sec'y.

VAN BUREN COUNTY.

Van Buren County Medical Society held its annual meeting at Paw Paw Jan. 28th, and elected the following officers:

President—J. C. Maxwell, Paw Paw.

Vice-President—L. Curtis, Paw Paw.

Secretary-Treasurer—N. A. Williams, Bangor.

Delegate—N. A. Williams, Bangor.

Alternate—G. D. Carnes, South Haven.

The retiring president discussed the question of medical organization, pointing out the advantages derived therefrom.

Reuben Petersen, of Ann Arbor, read a paper on "Pelvic Inflammation From the Standpoint of the General Practitioner."

J. E. Maxwell, of Decatur, presented a paper on "Placenta Previa."

Abstract—

A. Definition—Placenta previa is an implantation of the placenta at the lower part of the uterus cavity over the internal os uteri.

B. Pathology—This is taken up briefly by the writer.

C. Etiology—(1) The older writers believed that placenta previa was caused by the slipping down of the ovule from either the upper or middle to the lower zone of the uterus, where a second implantation of the ovule took place. In other words, it was an arrested abortion.

(2) To-day it is believed that the implantation of the ovule in the lower zone of the uterus, the development and growth downward, encroaching on the internal os, is the true cause of placenta previa.

D. Symptoms—The doctor then takes up the classical symptoms and signs of this disease.

E. Prognosis—This is extremely grave both for the mother and for the child. Hofmeir's latest report showed a maternal mortality of one out of every forty-six cases of placenta previa.

F. Treatment—This the doctor handles very nicely. He lays especial stress on saving the life of the mother even if you have to sacrifice that of the child to do so.

G. Report of five cases the writer has had of placenta previa. Mortality to the mothers was 0%, to the children 80%.

N. A. WILLIAMS, Sec'y.

WAYNE COUNTY.

A committee was appointed at the meeting of the Wayne County Medical Society Jan. 21st, to confer with Frederick Stearns & Co., Parke, Davis & Co., and H. K. Mulford & Co., relative to the cause for the change in price and package of diphtheria antitoxin. At the meeting of the Society, Jan. 28th, the committee submitted the following report, which was accepted:

It was the effort on the part of your committee to learn three things:

(1) Why the 500 unit package was discontinued.

(2) Why all the "Standard" or "X" had been withdrawn.

(3) The cause for the change in price.

In regard to (1), we learned that it was the impression of the firms consulted that 500 units did not immunize in all cases. So to simplify matters and to make the immunizing dose safe, the 1000 unit quantity was alone selected for that purpose. Since the withdrawal of the 500 unit quantity was unsatisfactory to the physicians, the 500 unit dose for immunizing purposes has been reinstated, but only in the "Special" or "XX" potency.

In regard to (2) as to why the "Standard" or "X" had been withdrawn, we were told that between 75% and 85% of all the antitoxin used throughout the country was the "Special" or "XX," and that the withdrawal of the "Standard" or "X" was because (a) there was a lack of demand for it and because (b) it was a burden to the patient and physician to inject so large a volume when a large dose was necessary, and because (c) it simplifies matters to have but one grade.

In regard to (3) as to the price, (a) the price of the 500 unit "Standard" or "X" has been such that the production of it has been a loss to the manufacturer and the price of the "Special" or "XX" is but a sufficient advance to meet the loss on this quantity. These were the grounds taken by Frederick Stearns & Co., while Parke, Davis & Co. attributed the advance of price in this package to the injecting apparatus, which now is an additional accompaniment to each package. The net value of this mechanical appliance is about 23 cents. (b) 40% of the total product is returned at the expiration of the time limit, resulting in a total loss for that returned, thereby increasing materially the cost of the output.

Since writing this report, the following letter was received from Frederick Stearns & Co.:

"Agreeable to the suggestion of your committee, we will furnish a low potency antitoxin (such as formerly was listed by us as "Regular" or "X") in two sizes of package, only of 500 and 1000 units respectively. This will be put up in hermetically sealed bulbs (as all our serum was originally) without the injecting device and will be sold at 75 cents for the 500 unit bulb and \$1.50 for the 1000 unit bulb. We consider that these two sizes of the low potency serum will be all that is necessary to offer, for at the present reduced prices at which the higher potency serums are selling, the difference in price between the two kinds barely exceeds the cost to us of the syro bulb."

Following will show the relative cost of the "Special" or "XX" this year from last year:

		1904.	1903.
No. 0—Per Syro-bulb of	500 units.	\$.110	\$1.15
No. 1— " " " "	1000 " "	\$.200	\$2.25
No. 2— " " " "	2000 " "	\$.350	\$4.00
No. 3— " " " "	3000 " "	\$.500	\$5.75
No. 4— " " " "	4000 " "	\$.650

Signed

H. WELLINGTON YATES,
J. A. MACMILLAN,
B. R. SHURLY,

Committee.

CHANGE IN MEMBERSHIP.

(Jan. 15th to Feb. 5th.)

NEW MEMBERS.

D. L. Alexander, Ann Arbor, Mich.
 F. Allen, Fostoria, Mich.
 N. I. Baker, Milford, Mich.
 C. N. Bottum, Marquette, Mich.
 E. E. Bronson, Ganges, Mich.
 W. C. Conley, Ishpeming, Mich.
 T. B. Cooley, Ann Arbor, Mich.
 A. E. Copp, Tuscola, Mich.
 T. M. Cunningham, Marquette, Mich.
 W. P. Elmer, Ann Arbor, Mich.
 R. D. Fox, Ann Arbor, Mich.
 G. W. Fralick, Maple City, Mich.
 F. J. Gibson, Jackson, Mich.
 H. Gilbert, Bay City, Mich.
 C. L. Girard, Escanaba, Mich.
 M. E. Greene, Charlotte, Mich.
 J. O. Groos, Escanaba, Mich.
 G. E. Grover, West Bay City, Mich.
 A. Gulde, Chelsea, Mich.
 J. W. Gustin, Bay City, Mich.
 X. A. Jones, Cement City, Mich.
 E. D. Kremers, Ann Arbor, Mich.
 W. J. Laird, Nahma, Mich.
 W. P. Lane, Northland, Mich.
 Dr. McHugh, Kenton, Mich.
 J. A. McLandress, Bay City, Mich.
 J. C. McDonnell, Sanilac Center, Mich.
 J. Mackenzie, Reese, Mich.
 A. W. Martin, Howard City, Mich.
 W. A. Maxfield, Hudsonville, Mich.
 E. L. Morrison, Jackson, Mich.
 H. L. Morris, Vassar, Mich.
 R. Morris, Vassar, Mich.
 R. S. Morris, Ann Arbor, Mich.
 R. L. Morse, Ann Arbor, Mich.
 Andrew Nelson, Manistique, Mich.
 A. T. Northcott, Bay City, Mich.
 S. Osborn, Ann Arbor, Mich.
 P. W. Pearsall, Kalkaska, Mich.
 J. C. Peppler, Graafschap, Mich.
 E. B. Pierce, Jackson, Mich.
 G. R. Pray, Jackson, Mich.
 F. H. Randall, W. Bay City, Mich.
 A. P. Reed, Ann Arbor, Mich.
 J. D. Riker, Pontiac, Mich.
 J. G. Rulison, Ann Arbor, Mich.
 C. S. Sackett, Charlotte, Mich.
 T. W. Scholtes, Munising, Mich.
 A. G. Sheets, Eaton Rapids, Mich.
 W. S. Shipp, Ann Arbor, Mich.
 F. L. Smith, Commerce, Mich.
 Virginia Smith, Spring Lake, Mich.
 E. L. Therlby, Traverse City, Mich.

A. E. Unger, Dundee, Mich.
 G. Vander Veen, Grand Haven, Mich.
 H. S. Wagner, Ann Arbor, Mich.
 R. J. Walker, Saugatuck, Mich.
 G. W. Walworth, Reese, Mich.

CHANGE OF ADDRESS.

L. Fleckenstein, Swartz Creek, Mich.
 G. E. French, Wells.
 G. W. Shipman, Rochester, Mich.
 W. Taylor, Fairview, Oklahoma Territory.
 C. M. Thompson, Traverse City, Mich.

LEFT THE STATE.

H. B. Horton, Laurium, Mich.
 W. F. Knapp, Monroe, Mich.

ADDRESS LOST.

F. D. Rich, Manistee, Mich.
 C. M. Steele, Bay City, Mich.

DROPPED.

C. A. Clark, Williamsburg, Mich.

The Occurrence of Cells with Eosinophile Granulation.—1. Eosinophile leucocytes, which are identical with those found in the circulating blood, occur in

- (a) Mucosa of gastro-intestinal tract.
- (b) Mucosa of air passages.
- (c) Lymphatic tissue.
- (d) Spleen.

2. Large mononuclear cells with eosinophilic granulations occur in the bone marrow.

- (a) These undergo mitotic division and
- (b) Form daughter cells
 - (I.) Which resemble in size the eosinophiles of the blood, and
 - (II.) Whose nuclei are polymorphous.

3. There is no evidence of multiplication of the eosinophiles in the blood or in the various organs.

4. The neutrophilic or amphophilic myelocytes resemble the eosinophilic myelocyte in

- (a) Size and
- (b) Character of nuclei.

5. An increase in the eosinophiles of the blood is accompanied by an increase, in the bone marrow, of the eosinophilic myelocyte in

- (a) Number and
- (b) Mitotic divisions.

6. Eosinophiles, manufactured in the bone marrow, reach the tissues through the blood vessels.

7. Eosinophiles have been shown to migrate from the blood vessels into the wall of a small bronchus and hence, through the epithelium, into the lumen.

8. It is not improbable that the number of eosinophiles, discharged into the circulation from the bone marrow, is subject to periodic variations.

9. Complete withdrawal of food is followed by a decrease in the proportion and in the absolute number of eosinophiles in the peripheral circulation.

10. This diminution is preceded by a temporary increase, which may be explained by

supposing that the ripe eosinophiles already stored in the marrow, reaching the circulation, are no longer diverted to the intestinal mucosa.

11. With the administration of food, the eosinophiles of the blood gradually increase in number, but neither the weight of the animal nor the number of eosinophiles increase continually.

12. There exists a close relationship between the nutrition of the animal and the eosinophilic leucocyte as is shown by the fact that variations in weight and in the number of these cells take place with much regularity, but in opposite directions, so that a temporary fall in weight is accompanied by a rapid increase of the eosinophiles, while a rise in weight tends to retard this increase. *American Journal of the Medical Sciences*, Feb., 1904; Eugene Opie.)

The X-ray as a Therapeutic Agent with Especial Reference to Carcinoma.—1. Value of X-ray treatment in carcinomata depends on three factors:

(I.) The situation of the lesion, whether superficial or deeply situated. The destructive action of the X-ray on cancer cells is in direct proportion to their superficial position.

(II.) The rapidity of the growth and the resisting power of the carcinoma cells in the particular case.

(III.) Size of the new growth.

2. The X-ray is indicated as a therapeutic agent:

(I.) In superficial epitheliomas.

(II.) As a post-operative treatment in most of our carcinoma cases.

(III.) In our inoperable cases, as a justifiable piece of experimental work in the hope, that this line of investigation may possibly lead to valuable results.

3. The dangers of the X-ray:

(I.) Possibility of producing a serious X-ray burn.

(II.) The use of the X-ray in cases where it should not be used; where its use is of no benefit to the patient; where its use means valuable time is lost, thus preventing the patient from receiving greater chances of cure, offered by surgical intervention. (*Journal of the American Medical Association*, Jan. 2, 1904. Arthur D. Bevan, Chicago.

Book Notices.

PRACTICAL DIETETICS WITH SPECIAL REFERENCE TO DIET IN DISEASE. W. Gilman Thompson, M.D. Second Edition. Cloth, pp. 828. D. Appleton & Co., New York.

This book is a thorough revision of the first edition, which appeared about seven years previously. Considerable new material has been added and the old brought up to date. The need for such a book is apparent to all. The best text books of medicine bristle with such state-

ments as "The value of nutritious diet requires mere mention;" "General dietetic treatment is of primary importance," etc. It is to reduce this general dietetic treatment to something concrete and practical that this book has been written.

Much emphasis has been laid in medical teaching on the importance of right diet in preserving health. How much more attention should, then, be given to this subject for those, whose powers of assimilation are weakened or broken down by disease? In many cases, all are willing to concede, that the question of nourishment is the all important one, and yet the details of this part of the treatment, are too often left to the friends or nurse in charge of the case, aided, or hindered, as the case may be, by the patient's own desires. It is to fill this gap in our teaching and practice, that this work has been gotten out. As no one man's experience could possibly cover so broad a field, the views of other well known clinicians, are given in addition to those of the author.

The raw materials of our diet are first considered and food and food preparations gone over. The relative values and importance of water, salts, proteids, carbohydrates and fats are considered in detail. Then stimulants, beverages and condiments are discussed, giving, of course, the lion's share to the all important question of alcohol. As the preparation of the food often changes radically its character, this is gone into as well as the methods of food preservation. The digestion of the food and those conditions which especially affect this, such as the hours of eating, mental emotions, etc., are next touched on.

The diseases of the various organic systems of the body, as far as they are influenced by diet, are taken up one by one and treated at great length and with considerable detail. The book is intended chiefly for reference and contains a large amount of very valuable and, at the same time, practical knowledge.

In closing, army and institutional rations are given and various dietaries suitable for all sorts and conditions of men, both in hospitals and elsewhere. The excellent researches upon the value of foods conducted by our Government and published under the auspices of the Department of Agriculture are very fully drawn upon in the preparation of this work. The presswork is excellent and the illustrations are good, although few and taken almost without exception from Bulletin No. 13, Division of Chemistry, Agricultural Bureau.

R. C.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Typhoid Fever in Children: This disease has been regarded as rare until recently; still there has been frequent mention of it in the early works, and Loeschner, in 1845, believed it occurred even in sucklings. Yet few cases have been reported under one year; more between one and six, but the majority of cases apparently occur between six and twelve. Boys seem more susceptible than girls.

More pronounced degenerative and necrotic processes in the intestines take place in children while the hypoplastic processes are characteristic of the adult type.

Montmollin's studies show, that, from the first to the tenth year, the duration of the disease gradually increases; in the first year, it is about twelve days; in the fifth year, about fifteen days; in the eighth year, eighteen days, and in the tenth year, twenty days. While the fever is milder in children, the results are fully as serious as in adults. The temperature rarely falls by lysis but commonly by crisis, at the end of the second week.

The respiratory organs are always affected; bronchitis is constant and atelectasis and catarrhal pneumonia in the severer forms.

Treatment is much the same as in adults except that children cannot stand very cold baths. The respiratory organs need especial attention as well as the delirium. For the latter chloral is best. Bromides are valueless.—(*Boston Medical and Surgical Journal*, Dec. 31, '03, and Jan. 7, '04. Adolf Baginsky).

Etiology of Sleeping Sickness: Report of the committee of the Royal Society sent to Uganda to study the disease, consisting of Lt.-Col. Bruce, Dr. Nabarro and Capt. Grieg.

1. That sleeping sickness is caused by the entrance into the blood and cerebrospinal fluid of a species of trypanosoma.

2. That this species is probably that discovered by Forde and described by Dutton from the west coast of Africa and called by him Trypanosoma Gambiense.

3. That cases of trypanosoma fever are probably cases of sleeping sickness in the earliest stages.

* * * * *

6. That the trypanosomes are transmitted from the sick to the healthy by a species of tsetse fly, glossina palpalis, and by it alone.

7. That the distribution of sleeping sickness and glossina palpalis correspond.

8. That sleeping sickness is in short a human tsetse fly disease.—(*London Lancet*, Dec. 19, 1903.)

Pure Carbolic Acid in Smallpox: Neech and Hodgson, of Halifax, have treated 136 cases of smallpox with pure carbolic acid, painted on the vesicles and have had a mortality of 3.6%. The acid was painted with a brush on the vesicles, over a limited area, every day, until all were gone over. This was continued until the pustules had dried up! They found that ulceration was prevented, the odor did not appear, and there was no absorption of septic material into the system. Scabs formed in from five to ten days. Patients were discharged well a week or ten days earlier than when no carbolic acid was used.—(*London Lancet*, Dec. 26th, 1903.)

Rheumatism and its Etiology: J. E. Winters in an interesting article in the *New York Medical Record* for Jan. 9, 1904, discusses the etiology of rheumatism. The characteristics of rheumatism are the copious, acid perspiration, acid saliva, hyperacid urine and acid fæces. Since cell processes are dependent on alkalinity this acid condition draws upon the sodium and potassium compounds in the blood and sets free carbonic acid, and this carbonic acid in the blood prevents oxidation. This prevention of oxidation causes the pain in joints, muscles, and tendons, the rheumatic anæmia, and the fever. If then this chemical etiology is right, rheumatism can be prevented by stopping the deficiency in the basic constituents (sodium and potassium) and in the vegetable acids in the food. Hence to reach the tissues and tissue fluids these potassium and sodium compounds must be in organic combination as produced by nature. We should use rich potassium-containing foods and fruits charged with vegetable acids for the diathesis. Rheumatism in childhood is often masked and organic heart disease has developed before we are aware that there was any rheumatism present. The predominating potassium salt in muscle is phosphate of potash, consequently in growing muscles there is an enormous demand upon it, in the rheumatic condition an even greater demand. It is therefore essential in attempting to control the rheumatic manifestations in children to pay attention to the digestive organs and the diet. The diet should contain a large proportion of cereal food, the cereals, vegetable soups, baked potatoes, bread, green vegetables, and fruit.

SURGERY.

Under the charge of

MAX BALLIN.

Hernia: John B. Deaver, in an address before the New York State Association of Railway Surgeons, gives his conclusions, to which a large number of hernia cases have led him. The opinion of such an eminent surgeon is worth quoting on so important a question, when to operate in hernia.

1. **REDUCIBLE HERNIA:** Deaver does not think, that any patient should wear a truss, but should be operated upon unless contraindicated. The few contraindications to the radical operation are: (a) Age, under 4 years, where about two-fifths of the hernias are cured spontaneously. (b) Organic lesions of heart, lungs or kidney, great obesity with adhesions in the hernia. (c) Old age, above 60 years, if the truss holds the hernia in place.

2. Irreducible hernia is always to be considered a dangerous condition.

3. In strangulated hernia taxis should never be prolonged for more than five minutes, and should be done without anesthesia, unless the failure of such manipulation can be immediately followed by herniotomy. Failing to reduce a hernia by the aid of moist heat and a few intelligently applied efforts at taxis, herniotomy should always be resorted to. The common practice of exhausting hot baths or continuous application of ice-bag are to be condemned.

The radical cure of hernia, non-strangulated, is an operation attended by but little risk to life in skilled hands. Coley reports 1075 cases of herniotomy with two deaths or less than 1.5 of one per cent. On the other hand strangulated hernia gives a mortality of 20%.

Umbilical hernia, if congenital, is best treated by the use of a truss, until the child has reached the 13th or 14th year, when a radical operation can be performed if the hernia has not been cured.

Acquired umbilical hernia is most common in obese persons, who are poor subjects for operation. Strangulation in these cases has a mortality of from 30 to 50%, hence radical operation should not be delayed, if the hernia is not held by a truss.

Hernias of linea alba above the umbilicus are frequently confused with subperitoneal lipoma. The symptoms are vague gastric disturbances and pains, often simulating gall-stone disease. Radical operation and the excision of the subperitoneal lipoma, if present, have often put an end to an extremely painful condition.

Incisional hernia in laparotomy wounds rarely becomes strangulated, unless adhesions have formed.—(*American Medicine*, Dec 12, 1903, J. B. Deaver.)

Appendicitis: Villaret believes that appendicitis does not occur more frequently now than in former years, but thinks that the apparent increase in number of cases is based upon better knowledge in diagnosis. He shows by the annual medical reports of the German army, that at the same rate, as the cases of appendicitis increased, the cases of liver and stomach-catarrhs and of peritonitis decreased. For instance, the

Annual Report of	Shows in Number of Soldiers	Cases of Appendicitis	Cases of Diseases of Liver	Cases of Inflammation of Bowels	Cases of Intestinal Catarrhs, Colics, etc.
1873-4	298.875	156	85	123	1072
1900-1	528.489	918	57	62	379

During these 27 years, 1873-1901, appendicitis increased 70%, diseases of the liver decreased 64.2%, inflammation of the bowels decreased 70.2%, chronic intestinal catarrh, etc., decreased 79.9%. This report shows beyond doubt that the increase in cases of appendicitis is only a consequence of better diagnosis.—(*Deutsche Medicinische Wochenschrift* 1904, No. 1, Villaret.)

Banti's Diseases-Splenectomy.—

1. Etiology is obscure.
2. Splenic tumor.
 - (a) Atrophy of splenic pulp.
 - (b) Sclerosis of malpighian corpuscles.
 - (c) Hypertrophy of capsule and reticulum.
3. Cirrhosis of the liver.
 - Lænnec type.
4. Anemia of a progressively fatal type.
5. Hæmoglobin-reduced in amount.
6. Red blood cells and leucocytes-reduced in number.
7. Examination of the blood and spleen, negative for micro-organisms.
8. Radical cure follows removal of the spleen.—(*Revue de Chirurgie*, Oct., 1903, Queen and Duval).

Gastroenterostomy.—

1. Operations—The doctor favors:
 - (a) Posterior method of anastomosis or
 - (b) Roux or Y operation.
2. Vomiting after operation.
 - (a) Cause. The writer believes that the formation of adhesions plays the chief part, by inhibition of the normal peristalsis and the retention of bile and pancreatic secretion in the loop of the afferent limb of the jejunum.
 - (b) Treatment.
 - (i) Gastric lavage.
 - (ii) No food by the mouth.
 - (iii) If the above is not successful, a second operation is done.—(*The American Journal of the Medical Sciences*, Feb., 1904, J. B. Deaver).

GYNECOLOGY AND OBSTETRICS

Under the charge of

B. R. SCHENCK.

Antistreptococcus Serum: The different methods of preparing antistreptococcus serum were cited in this column last month. Tavel in a recent paper writes of the results obtained by using the third variety—i.e., that made from several species of unchanged streptococci—on a series of cases of streptococcus infection. Several cases are given in detail, in one of which the symptoms returned after cessation of the injections, again to subside when the treatment was resumed.

Tavel believes that this serum, prepared without passing the organisms through animals, is a *specific* against the streptococcus, and that the failures to cure in all cases are to be explained by our ignorance of the proper dosage and because of the fact that the serum does not contain complements sufficient for the severe cases.—(*Deutsch. Med. Wochenschr.* XXIX. No. 51.)

Importance of the Leucocytes in Gynecology: Waldstein and Fellner have studied the blood in gynecologic affections, with the motive of ascertaining the value of the leucocyte count as an aid in diagnosis. While their observations include but 33 cases, these were carefully studied and the results are given in detail.

In tumors of the adnexa, they found that those containing pus produce, while acute, a leucocytosis; that this increase continues longer than the fever, but finally disappears despite the presence of the pus; that tumors containing no pus produce no change in the number of the white cells.

One patient with ovarian cyst and carcinoma of the uterus showed no leucocytosis, while the blood of one with general carcinosis contained 20,000 per c. mm. This increase they believe to have been due to absorption of the products thrown off by the neoplasm.

The counts in cases of hemorrhage were most interesting. When large quantities of blood have been rapidly lost, as in ruptured extra-uterine pregnancy, the white cells may be increased as much as in pus cases. In one the count was 24,000, falling to 23,000 an hour after operation, and to 16,000 within a few days. When, on the contrary, the bleeding takes place gradually, as in most cases of myoma, the blood forming organs have the opportunity of producing more blood and no leucocytosis results.—(*Wiener klin. Wochenschr.* 1903, No. 28.)

After Results of Placenta Praevia: Radtke introduces his monograph by saying that the literature on placenta praevia is almost wholly given up to diagnosis and treatment and that little has been written on the after effects of the condition. Eighty cases from the records of the Frauenklinik in Königsberg are reviewed.

Radtke found that 30% of those married, remained sterile, the sterility being due to serious pathological changes. When pregnancy recurs there is a tendency to abortion. Twenty-three of these 80 cases having subsequently miscarried, eight of them repeatedly. Even after a considerable period had elapsed 75% of the cases suffered from vertigo, dizziness and headaches, and over 60% were incapacitated for work on account of anæmia.

The writer makes a plea for the more careful treatment of such patients, first by correcting pelvic disorders and then by suitable medication.—(*Zentralbl. f. Gyn.* 1903, No. 51.)

Post-operative Thrombosis: Some new statistics on post-operative thrombosis and embolism are given by Albanus, who cites the 53 cases which occurred in 1,140 coeliotomies at the Hamburg hospital. This percentage (4.64) is the largest yet reported. In 26 of the 53 cases the operation was for the removal of tumors; in 18 there was some suppurative process; 10 cases followed appendectomy. Nearly half of the cases (23) were followed by embolism and 10 of these patients died.

A majority of the patients were women and most between the ages of 30 and 40. No new light on the etiology of this condition is given in this paper.—(*Beiträge z. klin. Chir.* XL. No. 2.)

Post-partum Hemorrhage: Prof. Fritsch of Bonn advocates a new method of controlling the bleeding in cases of severe post-partum hemorrhage. All manipulations should be extra vaginal, as infection readily takes place when there is severe secondary anæmia and lacerated tissue.

By this method, pressure is exerted on the uterus by pushing it upward and forward above and in front of the symphysis pubis. After kneading it thoroughly, towels and cloths are packed behind the uterus (invaginating the relaxed abdominal wall) and these are held in place by means of a roller bandage passed around the patient. Such a procedure has given excellent results in the hands of Fritsch and his assistants.—(*Deutsch. med. Wochenschr.* XXX. No. 1.)

Hemorrhoid Operation: Landström has been lately operating on hemorrhoids by his new forceps, a small crushing instrument, the force for which is applied by means of a thumb screw. The crushing and cutting away of the pile-bearing mucous membrane can be done very quickly and under primary anæsthesia. In the author's experience of 25 cases, there was practically no suffering after the operation and the results were excellent.—(*Cent. f. Chir.* 1903, No. 47.)

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Vol. III

DETROIT, MICHIGAN, APRIL, 1904

No. 4

Original Articles

THE NEWER METHODS OF DETECTING RENAL INSUFFICIENCY—CRYOSCOPY AND THE PHLORIDZIN TEST.*

BENJAMIN R. SCHENCK,
Detroit.

No fact in the history of medicine can be more indisputable than that the great advances of the past sixty years have been made because of the increasing activities along the lines of macroscopic, microscopic and experimental pathology. The scientific successes attained in these fields were not long in being appropriated both by the internist and the surgeon, and soon altered not only the conceptions of many diseases but the therapy as well. During these years the physiologist has not been idle, yet how slowly have his discoveries made their impress on practical medicine and surgery! No better example can be given of this than the quite recent application of blood pressure determinations to everyday work. Both the importance of the arterial pressure and the method of estimating it have been known to laboratory workers for years, yet only in the last two or three have we made practical use of the manometer.

There has also been the same apathy in applying the work of the physicist, and to a less extent, perhaps, that of the physiological chemist, but the great advances now being made, exclusive of the work on serum therapy, are along physiological and physical lines. It is, I think, safe to predict that during the next few decades, medicine will have received much from the workers in these laboratories. Not only will there be new discoveries but the older known facts will be appropriated and brought into everyday use as aids in diagnosis and treatment.

The two methods of diagnosis, to which I ask your attention to-night, have but quite recently come into use, although the principles underlying them have long been known to scientific men. They are cryoscopy and the phloridzin test. It may perhaps be truly said, that we are yet in the possession of too meager data to judge of the practical value of these methods, but considerable work is now being done along these lines and as we constantly see articles with references to these tests, it seemed, maybe, worth while to review

*Read before the Section on Internal Medicine and Pathology of the Wayne County Medical Society, February 8, 1904.

as simply as possible, the fundamental laws on which they are founded and the manner of applying them. What I shall have to say is in no way original, but can be found in the monograph of Casper and Richter and the papers of Tinker, Barth, Kümmell, Strauss, and others.

During recent years there have been introduced into medical literature the terms sufficiency and insufficiency of the various organs of the body. We are to understand that these terms express whether or no the organ under consideration, regardless of diseased processes or pathological alterations which have taken place within it, be still capable of performing its share of the work of the human economy. Thus Stokes introduced the term "heart sufficiency" to denote the work value of the cardiac muscle, and Rosenbach has used the expression "stomach sufficiency" to indicate the digestive power of the stomach, in its relation to the needs of the body. This "work value" as we may call it, is not therefore an absolute but a relative quantity.

The study of this question, then, is a physiological one, for in answering the question, "Is this or is that organ sufficient or insufficient?" we have only to ascertain whether or no it be fulfilling its physiological function to the extent necessary to maintain health. Hence the term so much used by the Germans—"functional diagnosis." It was Senator, of Berlin, who first brought forward at the *Verein für innere Medizin* (1892), the idea of the functional diagnosis of the diseases of the kidney.

The kidneys being paired organs, we have two questions brought before us.

1. Are the kidneys, taken together, in such a condition that they can carry on

sufficiently the work of the elimination of waste products?

2. Is one kidney, alone, sufficient, the other being diseased?

Suppose, for example, we have a tuberculosis or a pyonephrosis of the right; it is not enough to know that the left, plus the functioning, more or less healthy portion of the right, can carry on the work, but if operative relief is to be sought, we should know beforehand whether the left alone will be sufficient, else the removal of the right may cause the patient to die of uræmia. On the "work value" of the supposedly healthy kidney rests the decision whether a nephrectomy or a nephrotomy shall be done, and it is by the study of the blood and the urine that we gain this most valuable information.

Formerly we studied the urine alone, and it was our effort to examine it from as many different points of view as possible, taking not this or that finding alone into consideration, but basing our judgment on the points in the analysis in their relation one to another. Thus, we consider the twenty-four hour amount, the reaction, the specific gravity, the absence or presence of albumen, and the amount of urea. In rarer cases, where more accuracy is required, the quantitative estimation of the total nitrogenous excreta and of the salts is made. Even, however, under normal conditions all of these factors may vary, as for example, the urea, which may be anywhere from 20 to 30 gms., a variation, as Tinker says, undoubtedly much greater than that of the total excreta of the urine. We know how closely allied is urea to uric acid, hippuric acid, etc., and that to determine but one of the bodies is but a partial test. How ideal would be a method which

would give us, in one test, an indication of the total amount of waste matter in the urine and so an index of the working value of the kidneys, provided that test were simple and had no limitations. Such to a certain degree is the new test afforded by cryoscopy, which, in addition, gives most valuable information as to the condition of the blood.

It is, of course, well known to everyone that solutions of various salts freeze less readily than distilled water, for we are all familiar with the difficulty of freezing solutions of common salt. In 1882, Raoult undertook a systematic study of the freezing points of various substances in solution, and gave to the method the name, cryoscopy, from the Greek meaning "frost." Based on his investigations Raoult formulated three laws as follows:

1. Substances, solid, liquid or gaseous, when dissolved in a liquid, lower the freezing point of that liquid.

2. The lowering of the freezing point is proportional to the amount of the substance dissolved, or, in other words, to the molecular concentration.

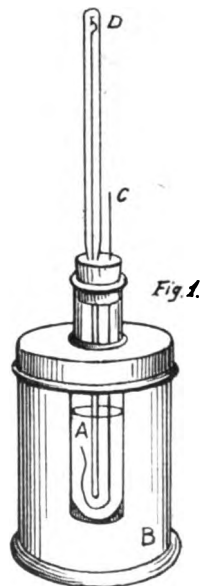
3. When various substances are dissolved in the same liquid, the lowering of the freezing point is equal to the sum of the freezing points of the substances, when separately dissolved.

With minor exceptions these laws have been found to be valid.

As far as medicine was concerned, these valuable researches went unheeded from 1882 until 1898, when Koryani, of Budapest, gave to the world an account of the studies which he and his pupils had made on the freezing points of many animal secretions. Koryani was quick to see the value of this method in diseases of the kidney, and to him belongs the credit of introducing it into medicine.

Now let me recall for a moment the phenomenon of diosmosis, first investigated by the physicist, Dutrochet. We are all familiar with the law of osmosis—namely, that liquids separated by an animal membrane diffuse according to their molecular concentration. The freezing point, as we have just seen, also depends upon the molecular concentration, hence cryoscopy furnishes a means of testing the condition of the renal tissue, and did the excretion of urine depend solely on this physical principle of osmosis, the determination of the freezing point of the blood on the one hand, and of the urine on the other, would give absolute evidence as to the membrane separating these liquids; in other words, the functioning renal epithelium. Despite the other factors concerned, these determinations furnish most important evidence.

The apparatus used for the determination of the freezing point is that of Beckmann (Fig. 1). It consists of an outer jar, B, in which the freez-



ing mixture of ice and salt is placed. Suspended in the jar is the tube, A, and projecting into this is a wire stirring rod, C, and a thermometer, D. This thermometer is graduated in one-hundredths

of a degree centigrade, usually from one degree above to four degrees below zero. The scale is sufficiently coarse to allow of the reading of 1-200 of a degree.

Heidenhain's modification differs only in having an extra tube around the tube A, thus providing an air space between the liquid to be tested and the freezing mixture, so that the cooling will be more gradual. There is also a somewhat simpler apparatus in which the freezing is done with carbon dioxide gas.

Before using the thermometer it must be tested by taking the freezing point of distilled water, and any variation from the zero point noted, subsequent reading being corrected by this difference.

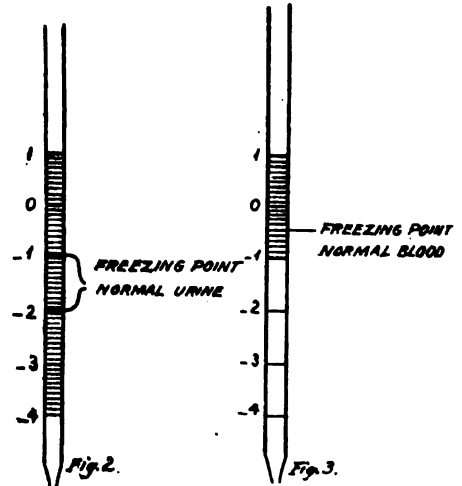
The ice and the salt, in large pieces, are placed in the jar in alternate layers, and from 10 to 20 cubic centimeters of the fluid to be tested poured into the inner tube. While the solution is cooling it is constantly stirred by means of the rod, to insure a thorough mixing and a uniform temperature throughout. The mercury at first sinks below the freezing point, but as congelation takes place it again rises and the freezing point read.

For the determination of the condition of the kidneys, cryoscopy of both the urine and the blood is employed.

By the examination of a large number of normal cases the freezing point of the urine has been found to vary between 0.9 and 2.0 degrees, and when the molecular concentration diminishes sufficiently to cause a freezing point above 0.9 it is an indication of renal insufficiency. The freezing point of a urine, below that of distilled water, is usually indicated by the Greek letter Δ . Figure 2 is a graphic representation of the normal variation in urine.

Conversely, when renal insufficiency exists, waste products are retained in the blood and its freezing point is lowered. The freezing point in health, despite the variations in the specific gravity (1035 to 1068, Lloyd Jones) is remarkably constant. It varies but 2-100 of a degree and is between 0.57 and 0.55, 0.56 usually being taken as the normal. This

is shown in Figure 3, and is indicated by the Greek δ . When it sinks below 0.58 there are waste products in the blood and



the kidneys are not performing their work.

In testing the urine, some workers have used the fresh specimen while others, notably Claude, employ a portion of the mixed 24-hour amount.

Blood for the test is best obtained by withdrawing it from an arm vein, by means of an aspirator, observing all the points in technic, as in making blood cultures. It is not necessary to whip the blood, and not less than 8 c.cm. should be used, better 15 c.cm. if it can be conveniently obtained.

While all this seems to involve much labor, it can be done, as Tinker says, in 45 minutes and is not therefore more time consuming than many other clinical methods.

Now, the determination of the freezing points of the blood and of the mixed urine answers the first question, "Are the kidneys, taken together, in such condition that they can carry on sufficiently the work of the elimination of waste products?" In many medical cases and in obstetrical work this gives all the neces-

sary information, but it is in the unilateral kidney affections, where the question of the operative interference comes up, that the method gives the most valuable help. Thus far we have not answered the second question, "Is one kidney sufficient, the other being diseased?" This is done by also studying the freezing points of the urine of the two kidneys, separated by ureteral catheterization. As Barth puts it, "the freezing point of the urine from the diseased kidney is less than that from the sound or partially diseased, and the greater the difference (one side being near normal) the greater the pathological process on the diseased side."

THE PHLORIDZIN TEST.

The phloridzin test, while not giving, on the whole, as valuable information as that furnished by cryoscopy, is still a helpful procedure in comparing the work done by the two kidneys. It is of use only in connection with the catheterization of the ureters.

This test is based on quite a different principle than that underlying cryoscopy, for it depends upon the chemical change wrought by the renal tissue in reducing phloridzin into grape sugar and other substances. It has been definitely proven that this change takes place in the kidney parenchyma, and it is somewhat analogous to the production of hippuric acid from benzoic acid and glycocholl, the one however being a reduction and the other a synthesis. In other words, a renal glycosuria is produced and by comparing the amount of the sugar formed on the two sides, we have an index of the amount of healthy tissue in the two kidneys.

Normally when 5 mmg. of phloridzin are injected subcutaneously, sugar appears in the urine after thirty minutes

and continues to be eliminated for from two to four hours.

The test, then, is made as follows: 5 mmg. of phloridzin are injected hypodermically, and the ureters catheterized. After waiting one-half hour, the urine is separately collected and the percentages of sugar calculated. The method would be valueless did we not now know that elimination by the kidneys is synchronous, a physiological point about which there has been, until recently, considerable dispute. The test is both diagnostic as to the side diseased, and to a less extent, prognostic.

The application and the interpretation of these tests will perhaps be easiest understood by briefly reviewing the findings in a few cases.

From Kümmell's last article I quote three examples of the effect of the retention of waste products on the freezing point of the blood.

1. A patient with nephritis. On admission, freezing point of the blood 0.585; second day, 0.595; day of death, with uræmic convulsion, 0.62.

2. A patient with hypertrophy of the prostate and bilateral kidney disease. First observation, blood froze at 0.63; second observation, 0.68; third, 0.78.

3. A case of double pus kidney showed, ten days before death, a blood freezing point of 0.60; 5 days before death, 0.62; one day before death, 0.67.

The complete examination in a case of right pyonephrosis, with left nephritis, from Casper and Richter is as follows:

Freezing point of the blood, 0.58.

RIGHT.	LEFT.
Freezing point—0.94.	Freezing point—0.94.
Sugar 0.	Sugar .4%.
N .196.	N .474.

In this case the freezing point of the blood was but little more than normal,

showing that the total work done by the kidneys, while not up to the standard of health, was still sufficient to eliminate most of the waste products. The right kidney was the seriously diseased one and one sees that all the figures in the "right" column are less than those in the "left."

These new methods have now been in vogue for about three years and while this is too short a time for their worth to be absolutely established, because of the comparative rarity of kidney affections and operations in any one clinic, there is nevertheless sufficient evidence to prove that they are of great value.

Kümmell, whose opportunities for testing any new procedures are unsurpassed, on account of the enormous material at Hamburg, has been an enthusiastic advocate of cryoscopy since the beginning. He considers the information obtained by determining the freezing point of the blood to be the principal factor in his wonderful reduction in mortality, which has decreased from 28% to 8%. In his last 62 nephrectomies, the mortality was

but 4.8%, due to a more intelligent selection of cases, made possible by these new methods.

All surgeons who have employed these new tests testify to their value, but more observations are necessary before their limitations can be established and their exact value determined.

A list of the principal articles on the subject is appended. By consulting these, the complete bibliography can be found.

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ECLAMPSIA.*

CHARLES LYBRAND BONIFIELD,
 Cincinnati, Ohio.

Since the septic character of puerperal fever has been recognized and the rules of asepsis successfully applied by the rank and file of the profession in obstetric practice, this cause of death in childbed has lost its overshadowing importance and other pathological conditions, that complicate the physiological process of labor, are receiving relatively more at-

tention. One of the most interesting of these conditions is eclampsia. It is interesting because it occurs not infrequently (once in every 300 to 500 cases) and because death claims from ten to thirty per cent. of its victims, but especially interesting because its cause has eluded a vast amount of research by the most careful and painstaking investigators. It is with the treatment of eclampsia that this paper will, for the most part,

*Read before the Wayne County Medical Society, Feb. 18, 1904.

deal, but as treatment is bound to be influenced, if not controlled, by the theory the practitioner holds as to the cause of the malady, we will consider very briefly some of the theories that have been advanced as to its cause.

One of the earliest theories was that of Lever, that eclampsia was produced by the pressure of the gravid uterus on the renal arteries and veins. Halbertsma contended that the pressure was on the ureters. Some of the facts that seemed to support this theory are that eclampsia is more frequent in primiparæ, when the tonicity of the abdominal wall is such as to give rise to pressure; that it is more frequent in multiple pregnancies, or when the uterus is much distended from hydramnios; that the swelling of the lower extremities, in the latter months of pregnancy, prove that pressure is exerted on the blood vessels in the abdomen or pelvis; that, in some cases, post mortem examination shows dilatation of the ureters. Against this theory are the equally important facts, that patients with fibroid or ovarian tumors, where the pressure within the abdomen would be fully as great, do not have eclampsia; that patients dying from cancer of the uterus in which condition the ureters are the subject of pressure, do not have eclampsia; that a woman may go to term with one or more pregnancies not having eclampsia, to develop it in a later pregnancy; that dilatation of the ureters is not always found, post mortem; that there are other explanations for the effect of twin pregnancies and hydramnios.

A second theory was that the convulsions were caused by the pains of labor in a neurotic woman, the equilibrium of whose nervous system has been disturbed by pregnancy.

That pregnancy makes the nervous system more irritable is proven by the numerous reflex symptoms, such as nausea and vomiting, neuralgia and the psychic phenomena that are frequently present. Experiments on animals have demonstrated that convulsions are more easily produced when pregnancy exists.

That a labor pain may excite a convulsion in a woman in whom the underlying cause or causes of eclampsia exist, is doubtless true; but a large percentage of cases of eclampsia occur before labor.

That albumin is present in the urine in a very large proportion of eclamptics has long been well known. Gubler accounted for its presence by the supposition that in such a patient there is an excess of albumin in the blood, more than the nutrition of mother and child demand, and that it is eliminated by the kidneys, as it is by the kidneys of a person who has ingested a large quantity of albumin.

Caseaux attributed it to an excess of serum in the blood, and consequent high vascular tension.

Frerick said that the albuminuria was due to disease of the kidneys, and the convulsion to uraemia, using the word in its modern sense. This theory received very general acceptance for a time, but it has been observed that in some cases of eclampsia, albuminuria does not exist; that in other cases it disappears more rapidly than in any known form of nephritis, and that in fatal cases the kidneys do not always show lesions to account for this termination. It has also been shown that there is no retention of nitrogenous products in important organs. Patients suffering from chronic nephritis may pass through pregnancy without developing eclampsia.

The Traub-Rosenstien theory was, that the convulsions are caused by anæmia and edema of the brain. This theory also found many adherents, but post mortem examinations failed to substantiate it.

About twenty years ago the bacterial origin of eclampsia was suggested, but as yet no one has isolated the pathogenic germ, and the preponderance of evidence is against its existence.

More recent theories are, that it is due to some fault in the function of the thyroid gland or the ovaries. It will require much more evidence than has yet been adduced to prove either of these.

Fehling and others have advocated the theory that it is caused by the retention in the circulation of the mother of waste products eliminated by the fœtus. The fact that convulsions usually cease with the death of the fœtus is certainly valuable evidence in favor of the truth of this theory. Convulsions sometimes occur in the child soon after birth, and when the child dies, changes in its liver and kidneys, similar to those found in the organs of the mother, are often found. It is just as reasonable to suppose, however, that the poison has been carried from mother to child as from child to mother.

Stark, of Cincinnati, suggests that disease of the placenta may be the cause. He reasons that, as Claude Bernard demonstrated, the placenta had a glycogenic function, it may therefore have other chemical functions that have not yet been demonstrated, among them that of transforming or rendering innocuous waste products of metabolism, existing in a state of incomplete oxidization, from the fœtus.

That when it contains large and numerous infarcts, as it frequently does in

eclampsia, it performs this function imperfectly, and waste products escape into the circulation of the mother.

It may be said of all these theories, "not proven." Post mortem findings are neither constant nor pathognomonic. More or less evidence of nephritis, or of the action of a poison on the kidneys, is usually found. Changes of a hæmorrhagic character are present in the liver in most cases, though they be microscopic. A hyperæmia of the cortex of the cerebrum is not infrequently seen.

In the light of our present knowledge we must, therefore, conclude that eclampsia is caused by a poison existing in the blood; that the poison may be derived from the fœtus, or the mother, or both; that its presence, in toxic quantity, is due to a faulty performance of function on the part of the liver and kidneys.

The treatment of eclampsia is prophylactic and curative. During pregnancy the urine should be examined at least once a month. This is especially important in primigravida. If albumin is present, even in small quantity, an examination for casts should be made and the amount of urea excreted, estimated. It is important to know the amount of urine passed in 24 hours. If the urine is found to be markedly abnormal, the patient should be put on an absolute milk diet. She should avoid exposure, and where the urine is very scant, she should remain in bed. She should drink freely of lithia water and keep the bowels open with phosphate of soda, Carlsbad salts, or some other mild saline. The skin should be stimulated to do its share of elimination by warm baths. If under this line of treatment the patient fails to improve, and grows worse, the urine becoming more

scant and more heavily laden with albumin, the pregnancy should be interrupted.

When eclampsia manifests itself, the indications for treatment are (1) stop the convulsion; (2) stop the introduction of poison into the circulation, and (3) hasten the elimination of the poison already present. It will be more convenient to discuss the second indication first, and the first and third together. Schauta and others have shown that convulsions usually cease with the death of the foetus. This would seem to prove that the presence of the living child in the uterus is an important factor in the production of the poison. The second indication can therefore be at least partially met by emptying the uterus. How shall this be done? As labor pains are apt to precipitate convulsions in such a patient, she must be rendered insensible to pain. This is best done by the use of chloroform. It is unwise to keep a patient under chloroform many hours, therefore the delivery must of necessity be more or less after the manner of *accouchement forcé*. If the child is not viable, there should be no question as to the proper procedure. Dilatation should be begun with the ordinary Gooddell dilator and continued with the hand, until a foot can be secured. By judicious traction on the foot, the cervix can usually be made to yield sufficiently for delivery in a reasonable length of time. In the very rare cases in which the cervix cannot be made to dilate sufficiently, perforation and, if necessary, eviceration, can be done.

With the child living and viable, its interests must be considered. If the cervix is dilated, or dilatable with the hands, delivery can be effected by version, or the use of high forceps, according to the pre-

dilection of the operator. If the cervix is rigid and unyielding, one of four methods can be adopted: (1) sufficient dilatation of the cervix to permit of delivery can be secured by use of the powerful metallic dilator, devised for the purpose; (2) dilatation secured by multiple incision of the cervix; (3) vaginal Cæsarean section, after the manner of Dührssen; (4) Cæsarean section. The first method is exceedingly dangerous, and in the opinion of the writer should not be used. The second is only less dangerous than the first, for there is no telling how far an incision will tear, when subjected to the force necessary for delivery. The vaginal Cæsarean section is a comparatively new operation. Its value has scarcely been established. In its favor can be said that the wound is in a position favorable for drainage, and there is no incision in the abdominal wall with the consequent scar, and danger of hernia. Against its use may be said that after opening the uterus per vaginam, the child must still be delivered through the bony pelvis and over the perineum, which may be very rigid in primiparæ, as most of these patients are; the operator is largely working in the dark and the operation may be exceedingly difficult if the vagina is small. Cæsarean section is an easy operation in the hands of an expert abdominal surgeon, and should be chosen in preference to any of the other methods just mentioned, if such an operator is in charge of the case. If the patient is septic, the operation should be completed by the removal of the uterus. For the control of the convulsions, chloroform is usually the first drug employed. It is fairly efficient, it is commonly at hand, as there are few obstetricians who do not now habitually carry it in their instrument bag, it can

be readily administered to the unconscious, and it facilitates any necessary obstetric manipulation—good and sufficient reasons to account for its popularity. But, as before mentioned, its use cannot be continued indefinitely, and some less dangerous drug, whose use does not require the constant watchfulness of the physician, is desirable to prolong the sedative effect. Morphine, in doses of one-half to one grain, is given hypodermically for this purpose. In many cases it does very well, but there are some objections that may be urged against its use. Morphine checks elimination by the kidneys, bowels and skin, and elimination is to be stimulated rather than retarded in all conditions of toxæmia. It is generally recognized that its use is attended with danger when the kidneys are diseased. Chloral is a valuable substitute for morphine. Its action is not so prompt, as it cannot be given hypodermically, but it is efficient, and chloral does not appreciably interfere with elimination. It is readily absorbed by the rectum, and 40 to 60 grains is the proper dose when given in that way. Codein is less objectionable than morphine. The phosphate can be given in sufficient quantity hypodermically to be of value. Three or four grains of this salt may, with advantage, be added to the chloral given per rectum.

Blood-letting is also a valuable means of controlling the convulsions. It has usually been the practice to limit it to those cases having a full bounding pulse, but Williams has employed it successfully where the pulse was thin and weak. It is advised that the blood drawn off be replaced with salt solution, as in this way a part of the poison is removed from the body and the remainder diluted.

—The objection to bleeding is that these

patients have blood of a poor quality to begin with. By removing some of it, whether the deficit be supplied at once with salt solution, or the blood be allowed to get it as best it can from the tissues of the body, the quality is still further reduced. If the poison can be removed from the blood without impoverishing that fluid, it is certainly better to do so. The elimination of the poison may be hastened by stimulating the action of the kidneys, the bowels and the skin. Brisk purgation is to be secured as promptly as possible. A simple, or purgative enema may be first given, to be followed by a compound jalap powder, or 10 grains of calomel, followed in an hour by Epsom salts. If the patient is unconscious, croton oil may be dropped on the tongue. The kidneys may be stimulated by the use of cups over them, followed by hot applications. Clonoin is warmly recommended by Edgar for this purpose.

The skin may be made to act by the hot pack or the hot air bath. The liver, the kidneys and the skin may all be effectually stimulated by the use of a single drug, *veratrum viride*, which also lowers blood pressure, like bleeding, and acts as a powerful spinal depressant, like the narcotics. By its judicious use, the first and third indications for treatment are so fully met that the second (emptying the uterus) becomes less urgent, so that it is seldom necessary to resort to the more radical methods mentioned, and in this way the dangers of trauma, shock and sepsis are to a great extent avoided.

Fearn, of Brooklyn, recommended *veratrum* in eclampsia in an article published in the *American Journal of Obstetrics* in 1871. Jewett read a paper on its use before the American Gynecological Society in 1887, and Reamy read one before

the same society in 1895. Numerous other articles on the subject have appeared in various medical journals. It is being used by an increasing number of practitioners as the years go by, but has not yet attained the popularity that one would have expected from the hearty way in which it is recommended by those who have faithfully tried it. Three reasons probably explain this fact. 1st, it is an American product and recommended by American practitioners. Had its value been discovered by some continental celebrity, it would have been tried by everyone. Medical lore travels slowly from West to East. 2nd, for a number of years past it has been the fashion in medicine to decry the use of cardiac sedatives, under all circumstances. 3rd, the dangers of its use have been greatly exaggerated. Men who daily perform the most dangerous surgical operations will hesitate to give this drug, even for a desperate disease requiring a desperate remedy. The fact that it has been used in this condition by a considerable number of practitioners for more than thirty years without causing a death, is sufficient proof of its safety. According to the investigations of H. C. Wood, *veratrum viride* is a powerful spinal and arterial depressant, exerting little or no direct effect upon the cerebral centers. Under its action, the increased functional activity of the skin is greatly increased; but as this is a necessary result of the profound arterial depression, there is no reason for believing the drug has any specific influence on the perspiratory glands.

In a similar manner the excretion of bile is often indirectly increased by *veratrum viride*, through the severe vomiting which it induces.

American hellebore undoubtedly low-

ers animal temperature very decidedly, but whether directly or indirectly, has not been determined.

Clinically, *veratrum* slows the action of the heart, lowers blood pressure, causes muscular relaxation, stimulates secretion by the kidneys, the skin, the salivary glands and the liver. That the effect on the liver is not all due to the vomiting is proved by the fact that bilious stools frequently follow its administration in doses that do not cause vomiting, and moreover, as Isham has observed, the quantity of bile vomited under the use of full doses is greater than ever occurs from the use of simple emetics or from "biliousness." According to Isham, the increased flow of urine following the use of *veratrum* does not manifest itself for 24 hours, and then it lasts several days. I think when the diuretic effect is so slow in making its appearance, it is because the vomiting and purgation have removed a large quantity of fluid from the body and there is little left for the kidneys to eliminate. That the effect is usually quite lasting cannot be doubted.

Veratrum has been used successfully in the treatment of convulsions in both children and adults.

In the treatment of eclampsia, to obtain from *veratrum* the beneficent results it is capable of giving, it must be used boldly. The dosage is to be measured by the pulse beats and not by the number of drops of the preparation administered. To lower the pulse rate to 60 and keep it in that neighborhood must be the aim of the practitioner. It is best administered by deep subcutaneous injection. There may be other preparations equally reliable, but Norwood's tincture is the one the writer has always used. Twenty minims is a good initial dose in eclamp-

sia. If the desired effect is not obtained, 10 minims more are to be given in half an hour, and this dose repeated as often as is necessary. While a patient is under the influence of veratrum, the head must be kept low. If the foot of the bed be elevated, it is surprising what doses can be administered with safety.

Morphine and alcohol are both said to be reliable physiological antidotes. In the treatment of eclampsia most authors recommend that veratrum be reserved for those cases with a full bounding pulse. A pulse of this character may furnish an extra indication for its use, but it can be administered with safety and with advantage when the pulse is weak and thread-like. The writer has so often seen the

weak and rapid pulse of sepsis improve under its use that he has no hesitancy in advising that it be given, when there are indications for it, regardless of the state of the pulse.

He believes that veratrum is indicated in every case of eclampsia. He believes that while many cases will recover under other treatment or under no treatment, and some die in spite of all treatment, that veratrum is the most efficient single remedy known. He believes that other measures should be adopted at the same time it is being used, but that to treat eclampsia without veratrum is like trying to win a battle with only infantry when it is artillery that is required.

SOME INTERESTING DEVELOPMENTS IN OPHTHALMOLOGY DURING THE PAST YEAR.*

WALTER R. PARKER,
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In speaking of the new and interesting things in ophthalmology for the past year, I shall first speak of the therapeutics. Adrenalin chloride certainly has the most sensational as well as most useful place among the newer therapeutic agents. No agent since the advent of cocaine has been so gratefully received either in this country or abroad. The results from its use in iritis and glaucoma are conflicting and it should be used with caution. The use of atropine is a contraindication for the use of adrenalin in the eye, as the opening up of the tear duct allows the atropine to flow freely into the tear sac and nose, leading to atropine poisoning.

Argyrol, like all other substitutes for nitrate of silver, has fallen far short of the claims of its ardent advocates. It seems to be the best substitute thus far offered, however, and may find a permanent though limited use in ophthalmology.

Large doses of the salicylate of soda have been generally accepted as giving the best results, the rule being to give one grain per pound of body weight per day.

Subconjunctival injections of sodium chloride, sublimate, mercuric cyanide in varying strength have been used for herpes, interstitial keratitis, inflammation of the uveal tract and in scleritis with varying success for many years. The experiments for the past year, however,

*Read before the Detroit Academy of Medicine, Jan. 26, 1904.

seem to prove that the bulk of the solution employed has more to do with the results obtained than the particular drug used, and as the saline solution is less irritating than the others it is now generally employed.

One of the most serious developments of the year is sudden blindness following paraffin injection for the relief of deformities of the nose. I have at hand the report of two cases. Hurd and Holden (*Med. Record*, July 11, 1903) report the following case, "A mixture of paraffin (130° F.) and ordinary white vaseline, having together a melting point of 110° F., of semisolid consistency, was injected without the previous use of cocaine, the needle being first introduced at the tip of the nose and pushed upward an inch, and then introduced at the root of the nose and pushed down to a spot just above the former injection. At this time the patient was seen to rub his right eye, and in reply to a question, he said that he could not see with it. A little later ecchymoses appeared about the tip of the nose, indicating that a vein had been punctured. Twenty-five minutes after the injection, examination showed dilation of the right pupil and loss of response to light. The retinal veins were normal. The main inferior branch of the central artery and its divisions, however, were empty and collapsed, being recognizable only by the faint white outlines of their lateral walls. The main superior branch contained some blood, but when gentle pressure was made on the eyeball, the blood column here broke up and the blood flowed backward into the central artery." Within three hours retinal œdema became marked, and the "usual red spot of the macula" was plainly seen. Energetic treatment which consisted in inhalations

of nitrate of amyl, massage of the globe, and administration of digitalis, and later of glonoin, was established at once but without any improvement in vision. "The obvious lesson taught by these cases is that loss of vision and even of life may follow the injection of paraffin into a vein." Preliminary inspiration might be a partial safeguard against this accident. At all events, the operation is not so lacking in danger as the frequency with which it is done to improve the appearance or increase the comfort of the patient would seem to indicate. The authors find but one similar case, that of Diser, on record.

One book has appeared during the year that is of particular interest to the general profession. Emile Javal's "Among the Blind" a book intended as much for the family and friends of the recently blind adult as for the unfortunate himself. The peculiar attraction of the book lies in the fact that the author is an ophthalmologist of world wide reputation who has himself suffered comparatively sudden blindness after middle life. Not only has he given his own experience but he had conducted an exhaustive enquiry into the observations made and the methods employed by blind people the world over.

The style is well shown in the following quotation: "One form of slavery from which the blind person escapes with difficulty, is his absolute dependence on the assertions of others. If, therefore, he does not possess the entire confidence of those about him life becomes intolerable. Never lie to a blind man, with ever so good intentions, because in attempting to do him a temporary service you will destroy in him his confidence in you and, consequently, his feeling of security. No statement is more false than that

the loss of one sense augments the acuity of others. It is contrary to the law of sensation and to our experience to hope, for example, that a blind person, by mere exercise, will hear a watch tick at a greater distance than he did when he first lost his sight. What really happens is that he learns to observe with his remaining senses facts that, before he became blind, were of secondary importance."

"The adult, becoming blind, should continue his work whenever it is at all possible and should endeavor to conquer the difficulties his blindness puts in his way. In the home life of the blind man the saying of Franklin is singularly appropriate: 'A place for everything and everything in its place.' To have oneself read to in an audible voice is one of the chief resources of the blind, but how

unsatisfactory when compared with one's own reading."

"It is not a fact that because blind people do not see the smoke arising from the lighted cigar, cigarette or pipe they do not enjoy those consolations granted to normal sighted devotees of the goddess Nicotina. Think, for example, of the number of persons blind from birth, or of those who have later become blind, who regard the after-dinner cigar as one of the necessities of life."

"In the great majority of cases the marriage of blind persons is not contraindicated so far as transmitting the blindness is concerned."

The book is not only interesting to physician and patient but the chapter on the "sixth sense" and the "psychology of the blind" will be read with interest by physiologist and psychologist.

MEDICAL REORGANIZATION.*

EDWARD J. WITT,
St. Joseph.

When a year ago, the step toward reorganization was taken, its advisability was disputed by some, owing, I am firmly convinced, to a misconception of its real purpose. All sorts of wild talk was indulged in. It was predicted that this Society would be made the dumping ground for everything and everybody that bore the name of physician; the County Society would be powerless to control its membership; that it would become merely a cog in the wheel of the greater organization, which, it was held, existed mainly for the exaltation and aggrandisement of a few. All of these bear the ear-marks

of ignorance as to the real purpose of the reorganization scheme.

The old organization was a good one and did excellent work. In view of this fact it might be profitable to stop and consider what, if anything, has been gained by this new step.

In the first place, instead of standing alone as a small unit, the County Society has become a part and parcel of a great organized movement, whereby the County Society assumes a rôle of the utmost importance. "It is the only door of entrance to the State Medical Society and to the American Medical Association for physicians, within its jurisdiction." "It is the unit of organization, the foundation

*Read before the Berrien County Medical Society.

of, and the door to, everything above it." By this plan, membership in the higher organization is controlled absolutely, which was an impossibility under the old plan.

Another purpose of the reorganization is to break down sectarian lines within legitimate limits. A little consideration will convince us, that this is an advance step in the right direction. Narrowness of thought and vision in any walk of life is repugnant to the average intelligent mind, and is most certainly opposed to the spirit of the times. It is necessary that lines should be drawn, but when this is done so closely that everybody who thinks or acts differently than ourselves, is *ipse facto* wrong and branded a heretic, it behooves us to stop and consider whether we are just in our position. We may well congratulate ourselves that we live in an age where the spirit of tolerance is growing, and the number of those who are honest enough to recognize the fact that there may be and probably is truth in the convictions and opinions held by others, is increasing. Bringing this principle to bear upon the conditions that confront us in our profession today, it is well to recognize the fact that most so-called irregulars "became sectarians by mere chance and attended college and graduated before they really knew anything of systems of medicine. Most of them have been broadened by actual experience, until they differ from us in views and methods as little as we differ from each other, and are sectarians only in name." (McCormack.) It seems to me that there should be no objection to admitting such as these to professional fellowship, provided they renounce all sectarian affiliations, for far be it from me to advocate receiving into the fold those who continue to build along

sectarian lines. The art of medicine is too broad, too comprehensive to attempt to wall it in by a single law or fancy, however good it may be in itself.

There was a time when sectarian dogmas had a reason for existence; yes, even a value as an expression of protest against rank empiricism, excessive drugging and drastic methods so prevalent in earlier days. In this, history has simply repeated itself. In ancient Greece and Rome the same reaction against energetic treatments took place. After the lapse of time, the profession again went astray. Homeopathy with its infinitesimal doses then asserted itself. With it went a great many unwarranted conclusions, such as drugs having opposite effects in large and small doses; that symptoms alone should be treated, and that they should be treated by a drug which produced the same symptoms in large doses. While all this is unfortunately based on a fallacy, we owe homeopathy a debt of gratitude in that its votaries employed the best possible hygienic measures, and to this end much of its success is largely due.

So also eclecticism was a protest against the practice of the times which saw its sufficiency in the trite statement of the Elder Gross when he said "give me the lancet and calomel, and you can have all the rest." Happily the conditions no longer exist which brought about these protests, and the time is ripe for burying the hatchet and a coming together of physicians actuated by the true scientific spirit, which is bound by no law or ism.

This is the task that the American Medical Association has set itself. It seems to me that the profession has never taken a step that will in time more effectually break down the barriers that now separate us into different schools and unite into one

organized body all who earnestly and honestly strive to find and apply medical truth.

Then, again, the profession will be able to demand legislation, both national and state, that will result in unmistakable good to itself and the public. It will be the means of raising the educational requirements of our professional schools, and by creating a universal standard as to equipment and time of study, will produce a uniformity of product that will lead to reciprocal relations between the various examining boards, and make it possible for a reputable practitioner in one state to enter another without examination. There are today in this land of ours 147 medical schools, a large proportion of which are proprietary ones of very questionable grade, which subsist wholly on the tuition fees paid by the students. This leads to the greatest curse that the medical profession has to contend with, viz.: forcing young men into the profession unfit by temperament and education. The educational standard and equipment to which this movement is rapidly committing the profession, will wipe out of existence many of these mushroom institutions, because no institution can give a first-class medical education (as we even now regard it), and exist upon tuition fees alone.

While these hastily outlined benefits apply more especially to the profession as a whole, the County Society can exert its greatest force for good in its own county. It should bring together the practitioners of the local community and cultivate a feeling of common brotherhood and regard. As you all realize, much has been accomplished here in this respect. Physicians are, as a rule, the best and most generous members of any community; but

unfortunately, be it in city or country, owing to a spirit of rivalry, and not infrequently to jealousy, "arm length" acquaintance between doctors is often found, and instead of a word of commendation, a sneer or a criticism is planted wherever and whenever the opportunity presents. To me, the most dastardly act that anyone can perform is to undermine the confidence that patients have in their physician by making slurring remarks and passing criticisms upon his work and ability, hoping thereby to gain the client for themselves. Happily those who employ such methods are playing with a double-edged sword, and generally they are only injuring themselves. Every reputable physician should be able to call upon a fellow practitioner for consultation and help whenever required and feel that his own interest and reputation is safe, and not feel that the occasion will be taken advantage of to disparage his efforts. It is so easy to criticise a former attendant in a case. It takes no more than the brain of a fool to do that. Besides the circumstances and difficulties surrounding the case may have been, and probably were, entirely different in the earlier stages, which makes what seems at the time to be superior knowledge, lose its glamour and significance.

It might be well to recall the oath of Hippocrates in this connection: "with purity and holiness I will pass my life and practice my art." Again: "In whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption."

With these sentiments as a motto, there will be little danger of going astray or wronging anyone.

WHAT IS TO BECOME OF THE MEDICAL GRADUATE.

JOHN L. IRWIN,
Detroit.

The following facts, gleaned from the "Michigan Monthly Bulletin of Vital Statistics,"* published by the State Board of Health, with the co-operation of the Department of State, Lansing, will be of special interest to the profession as a whole:

Reports to the State Board of Health by representative physicians in active general practice in different parts of this state show an increase in sickness during 1902, due to the following diseases being prevalent throughout Michigan above the average for the ten (10) years preceding:

Increase in 1902 over average
for ten (10) years, 1892-1901.

Smallpox	718 per cent.
Scarlet fever	3 per cent.
Pleuritis	12 per cent.
Measles	13 per cent.
Tonsillitis	4 per cent.
Whooping cough	2 per cent.
Membranous croup	225 per cent.
Enteric fever	6 per cent.

The same reports show that the prevalence throughout Michigan in 1902 of the following diseases has lowered the average morbidity for the ten (10) years preceding as follows:

Decrease in 1902 below average
for ten (10) years, 1892-1901.

Meningitis	41 per cent.
Remittent fever	56 per cent.
Cholera infantum	42 per cent.
Inflammation of brain.....	50 per cent.
Intermittent fever	35 per cent.
Dysentery	43 per cent.
Erysipelas	26 per cent.
Puerperal fever	44 per cent.
Cholera morbus	32 per cent.
Consumption, pulmonary	29 per cent.
Diarrhea	7 per cent.
Inflammation of bowels.....	10 per cent.

*The Bulletin subdivides typhoid fever into enteric and typho-malarial.

Influenza	13 per cent.
Neuralgia	8 per cent.
Rheumatism	3 per cent.
Pneumonia	1 per cent.
Bronchitis	3 per cent.
Diphtheria	21 per cent.
*Typho-malarial fever	68 per cent.
Inflammation of kidney.....	6 per cent.

Excluding smallpox, scarlet fever and membranous croup, the increase in 1902 of the five (5) remaining diseases amounts to seven (7) per cent., while the twenty (20) diseases decreasing during the same year fall off at the rate of twenty-seven (27) per cent. Thus reducing the amount of sickness in 1902 to twenty (20) per cent. below the mean of the preceding ten (10) years.

For 1903 the same reports show that the prevalence throughout Michigan of the following diseases has raised the average morbidity for the ten (10) years preceding as follows:

Increase in 1903 over average
for ten (10) years, 1893-1902.

Smallpox	300 per cent.
Scarlet fever	36 per cent.
*Typho-malarial fever	22 per cent.
Pleuritis	21 per cent.
Measles	12 per cent.
Diphtheria	5 per cent.
Tonsillitis	4 per cent.
Whooping cough	2 per cent.
Inflammation of kidney.....	½ per cent.

The same reports show that the prevalence throughout Michigan in 1903 of the following diseases has lowered the average morbidity for the ten (10) years preceding as follows:

Decrease in 1903 below average
for ten (10) years, 1893-1902.

Membranous croup	60 per cent.
Meningitis	60 per cent.
Remittent fever	47 per cent.
Cholera infantum	43 per cent.
*Enteric fever	40 per cent.

Inflammation of brain.....	40 per cent.
Intermittent fever	47 per cent.
Dysentery	36 per cent.
Erysipelas	34 per cent.
Puerperal fever	33 per cent.
Cholera morbus	28 per cent.
Consumption, pulmonary	24 per cent.
Diarrhea	16 per cent.
Inflammation of bowels.....	13 per cent.
Influenza	12 per cent.
Neuralgia	12 per cent.
Rheumatism	7 per cent.
Pneumonia	5 per cent.
Bronchitis	4 per cent.

Excluding smallpox and scarlet fever, the remaining seven (7) diseases prevalent in 1903 above the average for the preceding ten (10) years show a proportionate increase of hardly ten (10) per cent., while the average decrease in the nineteen (19) above named is twenty-nine (29) per cent., making a net falling off in sickness for the year of nineteen (19) per cent.

We know that the income of physicians in general practice—political and corporation doctors excepted—depends upon the amount of sickness prevailing.

Diseases such as smallpox and scarlet fever are cared for in nearly every community by public appropriation, and treated by paid political doctors.

It will be noted from above data that the diseases, the prevalence of which the

general practitioner depends on for the bulk of his business, have, in past two (2) years fallen in Michigan *sixty-eight* (68) *per cent.* and *forty-seven* (47) *per cent.* below the average for the preceding ten (10) years.

The medical directory places the number of Michigan physicians at four thousand four hundred (4,400). To these are being added the annual "output" of graduates of the six (6) medical colleges of this state, and also the physicians who come into Michigan from other states and countries every year.

Doctors are constantly increasing in number, and sickness is falling off *annually*. What is true in Michigan is doubtless true in other states and localities. Bearing in mind the *altruistic* effort of the sanitarian, who reduces the percentage of disease, the *egotistic* effort of the medical college professor who lures the unsuspecting freshman to swell the ranks of the noble profession of medicine, and the confiding *optimism* of the said freshman who, after graduation, sits back and waits for the problematic increase in a sick rate which the sanitarian is paid to reduce and of which his erstwhile professor expects to derive sole benefit, the question forcibly presents itself: "What is to become of the medical graduate?"

THE USE OF LARGE PROBES IN THE TREATMENT OF STRICTURE OF THE NASAL DUCT.*

R. W. GILLMAN,
Detroit.

One has only to consult the various text-books of ophthalmology to discover that the workers engaged in this branch of surgery are divided into two classes as

regards the employment of probes in the treatment of stricture of the nasal duct. On one side belong those who believe in the avoidance of larger probes than Bowman's No. 6 or No. 8, which have diameters of 1.5 millimetre and 2 millimetres

*Read before the Detroit Ophthalmological Club.

respectively, claiming that these small sized probes bring about a thorough dilatation of the canal; and on the other side may be found those who insist that a full dilatation of the canal can only be established by the use of a probe with a diameter of 3.5 to 4 millimetres.

From the pen of no less an authority than Dr. Herman Knapp,¹ who is opposed to the use of large lachrymal probes, we read the following, as limiting the sizes adopted by him: “* * * in my opinion, which concurs with that of Arlt, Czermak, and many others, not beyond No. 5, or for large adults No. 6, which widen the canal sufficiently to restore and preserve the normal function of the tear passages.” Theobald,² a prominent champion of the larger probes, writes: “The absurdity of attempting, with a probe of 1.5 millimetre diameter, to restore to its normal dimensions an occluded canal which in health has an average diameter (measured in its shortest axis) of somewhat more than 4 millimetres, it would seem, should be evident to all; but experience shows that such is far from being the case.”

Such contrary views, as expressed by these distinguished teachers on the treatment of an affection which we all are called upon daily to relieve, exhibit just how divided the ophthalmologists are on this question.

It is significant that almost all writers who advise against the passage of larger lachrymal probes than those of 1.5 millimetre in diameter, without exception, admit their very poor results in the treatment of lachrymal obstruction, while the surgeons who advocate the employment of the larger sized probes claim to cure nearly all of their patients.

The writer was taught never to cathe-

terize the nasal duct with a larger probe than Bowman's No. 8, and religiously adhered to this rule, for several years; but is compelled to admit the results obtained from the use of the Bowman probes in the treatment of lachrymal stenosis corresponded with the poor results of all those who follow this method in dealing with this condition. Perhaps 50 per cent. of the cases would be cured after a shorter or longer period of probing and syringing; 10 per cent. of them would be more or less benefited, while 40 per cent. of the cases remained unimproved. Discouraged at having so many failures, the conclusion sadly was reached that I was truly fortunate when a sufferer from epiphora passed my door without applying for relief. In fact, after the experience with the Bowman probes in the treatment of lachrymal obstruction, I arrived at the same position as Prof. Knapp,³ who writes: “I advise patients with moderate epiphora to bear it without probing, and attend to the conjunctiva and mucous membrane of the nose. * * * I leave incomplete chronic strictures alone.”

Theobald was not the first surgeon to advocate the passage of the larger probes in accomplishing thorough dilatation of lachrymal strictures, but he must be given full credit for his exhaustive and scientific work begun as early as 1874. He was the first surgeon to undertake a series of measurements of the lachrymal duct with the object of ascertaining its average calibre in its normal condition. The result of his investigations showed the average size of the lachrymal duct to be 4.47 millimetres in diameter. Doctors Williams, Weber and Noyes, some few years before Theobald, placed themselves on record as urging the use of much larger probes than those of Bowman; but Theobald, with ~~the~~

increasing enthusiasm founded on success, kept insisting on the use of larger and larger probes until diameters of 3.5 and 4 millimetres were reached in all cases which demanded dilatation of the nasal duct.

Thanks to the teachings of Theobald on the employment of the larger probes, the writer, for the past eight years, has looked upon lachrymal stricture with its sequela—dacryocystitis—as one of the most satisfactory ocular affections to treat, and now attacks every case with the confident assurance that a complete cure is the only result in store for the patient, provided he follows instructions; and seldom, indeed, is there the disappointment of a failure.

During these eight years I have used the "Theobald probes" exclusively. They differ chiefly from the "Bowman probes" in being more pointed at the ends, which permits those of larger size to be introduced into the lachrymal sac through the divided canaliculus. As the set comprises sixteen sizes, the smallest probe (No. 1) having a diameter of 0.25 millimetre, while the difference between the successive numbers is 0.25 millimetre, the largest probe (No. 16) has a diameter of 4 millimetres. In this connection it may be well to mention as a caution that sets of lachrymal probes are known to have been sold by the instrument makers as "Theobald's probes" having the ends so blunt as to render the larger sizes entirely useless, through the impossibility of inserting their tips into the lachrymal sac.

In dealing with a case of stricture of the nasal duct, after first slitting the upper or lower canaliculus, preferably the lower, with a Bowman's or Stilling's knife, which is usually introduced well into the lachrymal canal, a No. 5 probe is the one selected for the first dilatation, and it

rarely fails to make the passage right down through the nasal end of the duct. Occasionally, it will be found that a smaller sized probe than a No. 5 must be selected for the first probing; but, in my experience, it more often is the case that a No. 5 probe is felt so loose in the duct that at the second seance a No. 7 or even a No. 8 probe can be passed readily. However, I usually increase the size of the probe to the next higher number, at each successive visit of the patient, who is requested to call every alternate day, until No. 14 or No. 16 is reached, when the interval of time between the probings is gradually increased to 3 or 4 days, a week, two weeks, a month, and even longer periods. The probes are allowed to remain *in situ* from 20 minutes to half an hour at each sitting.

There is usually no difficulty experienced in passing probes, up to No. 12; but instances occur when considerable force must be exerted in order to pass Nos. 13, 14, 15 and 16. Rarely is there failure in passing a No. 14 probe, in any case; and, often, No. 16 must be introduced in order to procure full dilatation of the canal. As stated, much force must sometimes be exerted in catheterizing with the larger probes, but, certain cases, especially those with carious walls, fail to improve in the least, until the larger sized probes are forced through the stenosed canal, accomplishing a distinctly curative effect; and, as Theobald has remarked, the result of the forcible probing is not unlike that produced by the curetting of diseased bone in other parts of the body.

The importance of passing the lachrymal probes down through the nasal end of the duct need hardly be mentioned, as occasionally a stricture will be found at this extreme limit of the canal, and if the

probe fails to pass it all the dilating above counts for naught. I believe the non-recognition of strictures in the nasal end of the canal to be a more common cause of failure on the part of the operator than, perhaps, it is supposed to be.

Another important area, yet, it is to be feared, often neglected by the ophthalmologist, is the interior of the nose. Cases of lachrymal obstruction are usually associated with or caused by one form or another of chronic nasal affections which, of course, should receive the appropriate attention.

Since adopting the larger probes it has been my practice to discard the routine syringing of the sac in cases of dacryocystitis, looking upon this as an unnecessary

procedure. However, I order a collyrium composed of boric acid and zinc sulphate to be dropped into the affected eye twice daily.

It is my belief that many patients would escape such operations as extirpation of the lachrymal sac or lachrymal gland for the relief of obstinate and complicated cases of dacryocystitis, as proposed and practiced by some surgeons, if the lachrymal canal were thoroughly and faithfully treated by dilating with Nos. 14 and 15, and, perhaps, No. 16 Theobald probes.

1. Norris and Olivers "System of Diseases of the Eye." Vol. III, Page 907.

2. "An American Text-book of Diseases of the Eye, Ear, Nose and Throat." Page 269.

3. Norris and Olivers "System of Diseases of the Eye." Vol. III, Page 907.

Mechanism and Treatment of Migraine.

A—Mechanism.

The evidence in favor of the view that the pain of migraine is due to vasodilation of the affected area seems complete. The vascular distension in a dilated area may be reduced by—

1. Pressure on the main arterial trunk supplying it.
2. Promoting vascular constriction in the small vessels of the part.
3. Promoting vasodilation elsewhere or generally.
4. Reducing the force or frequency of the heart's beat.
5. Reducing the total amount of blood in circulation.

B—Treatment.

1. In unilateral migraine, pressure on the corresponding common carotid gives immediate and complete relief from the pain.
2. In bilateral occipital migraine, compression of both occipital arteries gives immediate relief.
3. In intense pancranial migraine, complete cessation of pain follows compression of both temporals and both occipitals.
4. In pericranial migraine, cold lotions to the head or an ice cap, give relief by causing vasoconstriction of small vessels of cranium.
5. Vasodilation in areas other than the seat of pain is produced by hot applications to the extremities, dry cupping, nitro-glycerine, etc.
6. All drugs reducing the force and frequency of the heart, relieve the pain of migraine.
7. Hemorrhage by reducing the amount of blood, relieves also the pain.—(*Medical Record*, Feb. 27, 1904, p. 240).

The Blood in Acute Leukemia.

Conclusions.

1. There are three types of leukemia, each associated with a typical clinical picture.
2. There is every grade of transition between the blood picture and the clinical pictures.
3. When the blood picture, described by Fraenkel, is observed, it is almost certain that the case will run an acute course.
4. The presence of either of the other typical blood pictures is an assurance, not absolute, however, that the disease will run a chronic course.—(*American Medicine*, Jan. 23, 1904. Louis V. Hammon, Baltimore.)

Acute Lobar Pneumonia: An Analysis of 496 Cases and of 100 Autopsies.

Points of Interest.

1. The liability of immigrants to the disease.
2. The frequency with which people of outdoor occupations are attacked.
3. The infrequency of the rigor of onset.
4. The non-enlargement of the spleen in most cases of pneumococcus infection.—(*American Medicine*, Jan. 23, 1904; John McCrae, T. C. Fyshe, and W. E. Ainley—Montreal.)

The Life Cycle of Amoeba Coli in the Human Body—A Preliminary Note.

Dr. C. F. Craig, of San Francisco, believes that it is demonstrated that Amoeba Coli undergoes reproduction by sporulation and that this manner of reproduction most adequately explains the persistence of amoebic infections. These sporulating bodies appear to be encysted. If this is so, it would still further explain the persistence of such infections because encysted parasites are more resistant to injurious influences.—(*American Medicine*, Feb. 20, 1904; Chas. F. Craig).

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Editorial

GOVERNMENTAL SUPERVISION OF BIOLOGICAL LABORATORIES.

In order that the physicians of Michigan may understand the governmental supervision of biological laboratories, the following is submitted:

The question of the manufacture and sale of antitoxin has been one of considerable interest to physicians of late. It has come to our knowledge that almost invariably physicians in discussing this subject were not aware that all biological laboratories doing interstate business were operating under special licenses issued by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Department of Public Health and Marine Hospital Service, in accordance with the following Act of Congress, approved July 1st, 1902:

"An Act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes."

Owing to the length of this Act and its legal phraseology it will not be of as much interest to the physicians as the rules for inspection and issuing of licenses which were approved by a Sanitary Board, consisting of R. M. O'Reilly, Surgeon-General U. S. Army; P. M. Rixey, Surgeon-General U. S. Navy; and Walter

Wyman, Surgeon-General Public Health and Marine Hospital Service.

It will be observed that these regulations are most specific and adequate for covering all contingencies that may arise in connection with the manufacture of these products.

In this connection it may be well to call attention to the fact that municipal biological laboratories and institutions similarly organized, which do not do an interstate business, are not under the supervision of the Department of Public Health and Marine Hospital Service. We believe that it may well happen without such responsible supervision as the above that, owing to political and other conditions, there may be a repetition of the sad experience of the Municipal Laboratory of the St. Louis Board of Health.

INSPECTION.

1. The inspection shall be made by an inspector or a board of inspectors detailed by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Public Health and Marine Hospital Service.

2. The inspectors shall be commissioned medical officers of the Public Health and Marine Hospital Service above the grade of assistant surgeons, or chiefs of division of the hygienic laboratory of the same service.

3. The visit of the inspectors shall be unannounced.

4. It shall be the duty of the inspectors to call first upon the head of the establishment or member of the firm, stating the object of their visit.

5. The proprietor of the establishment being inspected shall extend every facility to the inspectors to aid them in their work. The inspectors shall be permitted to examine all portions of the premises, appliances, methods, stables, barns,

warehouses, records, and, if requested by the inspectors, shall be shown the methods employed in actual operation.

6. The inspectors are authorized, when they consider it necessary, to interrogate the proprietor, members of the firm, and employes of the establishment under oath.

7. The inspectors shall investigate fully the methods of preparation, storing, dispensing of, and other details in the manufacture and sale of serum, viruses, toxins, and analogous products.

8. The inspectors shall carefully examine into faulty construction and administration of establishments which would tend to impair the potency or purity of their products.

9. It shall be the duty of the inspectors to purchase in open market or, if they deem it advisable, themselves to purchase in the establishment a sample of the products then manufactured, which sample shall be examined by the inspectors for purity and potency or forwarded to the director of the hygienic laboratory for such examination.

10. It shall be the duty of the director of the hygienic laboratory of the Public Health and Marine Hospital Service to test samples sent him by inspectors for purity and potency, and the result of this examination shall be given to the inspectors, who shall give this report due weight in making their recommendations.

ISSUE OF LICENSES.

1. Licenses shall be issued, suspended, and revoked by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Public Health and Marine-Hospital Service.

2. When an establishment shall have been inspected in accordance with these regulations and the report of the inspector passed upon by the sanitary board of

the Public Health and Marine-Hospital Service, the Surgeon-General of the Public Health and Marine-Hospital Service shall review the findings of the board and forward same, together with his recommendations, to the Secretary of the Treasury for action.

3. The following form of license is prescribed: (Omitted.)

4. Licenses shall be good for one year from the date of issue and will not be re-issued without a reinspection, the report of the inspector to be passed upon by the sanitary board and the Surgeon-General of the Public Health and Marine Hospital Service, in accordance with the provisions of paragraph 2.

SUSPENSION AND REVOCATION.

When faulty methods of preparation, faulty construction, or administration of establishments are noted by the inspector, or impurities or lack of potency of products shall be demonstrated by laboratory examination, the inspector shall bring the same to the attention of the manufacturer, and if the error is not corrected within fifteen days thereafter the inspector shall forward a report of the conditions found, together with his recommendations, to the Surgeon-General, and, if the faulty conditions, upon review by the sanitary board and the Surgeon-General, shall be found to be of sufficient importance, the Surgeon-General shall recommend to the Secretary of the Treasury that the license of the offending establishment shall be suspended if the said faulty conditions are not corrected within thirty days, and if not corrected within sixty days that the said license be revoked.

E. M. HOUGHTON,
Detroit.

SCIENTIFIC EXHIBIT.

All members are urged to contribute to the Scientific Exhibit at the next annual meeting of the State Medical Society, May 25th, 26th and 27th, at Grand Rapids. Pathologic specimens, such as tumors and organs removed by operation, should be labeled with the name of the surgeon, a brief history of the case and a description of the operation performed. New instruments, apparatus, charts, plaster casts, photographs, skiagraphs or anything that shows advancement in scientific medicine will be placed on exhibition.

It is the aim of the committee in charge to make this exhibit an instructive feature of the meeting. The co-operation of all is desired. Intending exhibitors will please communicate with some member of the committee (see page IV) so ample space may be reserved.

THADDEUS WALKER,
Detroit.

PAIN IN THE KNEE.

Hoffa* gives some very valuable points on the pathology and therapy of the frequent cases of pain in the knee occurring after a slight accident. These cases are usually diagnosed as "rheumatism," or "neuralgia of the joint." The patients are treated with massage, baths, anti-rheumatics, etc. They wander from one physician to another; go to the various hot springs; consult osteopaths and electro-theraputists without finding relief from any of these sources. Hoffa shows that most of these cases can be diagnosed and treated as one of the four following affections:

1. Atrophy of the quadriceps-muscle after hematoma of the joint.

2. "Derangement interne," displacement of a meniscus.

3. Lipoma of the joint.

4. Free body in the joint.

1. The atrophy of the quadriceps-muscle after hematoma of the joint is characterized by history of a slight accident, following which the patient was confined to bed for a few days with a persistent pain in the joint. The patient complained of a pain inside the patella which is caused by the lack of tension in the capsule of the knee-joint. The loosened capsule, which normally is kept at a proper tension by the extensors, gets pinched, in moving, between the condyles and patella. Examination shows the knee-joint intact and atrophy of the extensor muscles. Massage and proper exercise of the atrophied muscles will promptly cure these cases.

2. Dislocation or laceration of one or both cartilages of the joint. Symptoms are: (a) history of slight accident after which the swelling of the joint persisted, (b) impossibility of completely extending the joint, and (c) an elastic swelling on the inner or outer side of the joint, caused by the displaced cartilage. The main characteristic is the pain right in the articular fissure, where sometimes the loose cartilage can be felt. Rest will improve these symptoms, but a slight strain will cause their return.

As to treatment: Replacement of the loosened cartilage, followed by fixation of the joint, will sometimes prove effective, but the classical treatment is incision and removal of the loosened cartilage.

3. Development of the fatty tumors in the joint. This solitary subsynovial lipoma may vary from the size of a cherry to that of an egg. It is usually situated

*A. Hoffa.—"Contribution to the Pathology and Therapy of the Diseases of the Knee-joint," *Berliner Klinische Wochenschrift*, (1904, No. 1).

on the internal side of the joint and is often pedunculated. Besides this solitary lipoma, Hoffa describes an inflammatory fibrous hyperplasia of the adipose tissue, normally situated on both sides of the patella ligament. Both these conditions are to be kept apart from the so-called "lipoma arborescens," which consists of the fatty degeneration of the "articular villi." The lipoma of the joint may be caused by an accident or by irritation of a loose cartilage or free body. The record of these cases show an original accident. Then after the first swelling disappeared, an elastic tumor appears, elevating the patella. Differing from number 2, this swelling is found on the sides of the patella, the upper recess of the joint and the joint fissure proper being free. Paroxysmal pains caused by incarceration of the fatty masses in the joint may also be present. The treatment should consist of excision of the fatty tumor. Hoffa mentions seven cases that were effectively cured by this treatment, after splints, baths, etc., had been tried for years.

4. Free bodies in the joint are easily recognized by well known symptoms, and can always be verified by X-ray. The treatment is surgical removal of the free body.

MAX BALLIN, Detroit.

Mechanism of Asthma.

Asthmatic paroxysms are due to a vasodilation of the blood vessels of the bronchial mucous membrane. This swelling of the mucous membrane may be reduced by—

1. Increase of mucous secretion.
2. Vasoconstriction in the affected area.
3. Vasodilation elsewhere or generally.
4. Reduction of the force of the heart's beat.
5. Reduction of the total amount of blood in the circulation.—(*Medical Record*, Feb. 27, 1904, p. 341).

Some of the Properties of Radium.

A—Radium Rays.

1. α (alpha) rays consist of a flight of positively charged particles, consisting probably of either hydrogen or helium, projected with a velocity of about 20,000 miles a second. These rays are rapidly absorbed and are stopped by a sheet of note paper in passing through a few inches of air.

2. β (beta) rays are more penetrating. They consist of negatively charged particles propelled with a velocity of over 100,000 miles per second. These particles are the smallest bodies known to science. They are readily deflected by a magnetic field. They have been shown

to be identical with the cathode rays produced in a vacuum tube.

3. γ (gamma) rays are of an extraordinary penetrating character. They readily pass through several inches of lead or of iron and are very similar in properties to the Roentgen rays.

B—Heat Emitted from Radium.

Radium does emit a large quantity of heat. A pound of radium will emit heat energy at the rate of about 1/15 of a horse power, and will keep up this rate of heat emission for probably hundreds of years without any appreciable change.

C—Emanation from Radium.

Radium produces from itself an emanation or gas which is strongly radio-active. This can be removed from radium by heat or solution. One pound weight of this emanation will initially give out energy at the rate of about 10,000 horse power.—(*The Montreal Medical Journal*, February, 1904; E. Rutherford).

Late Effects of Typhoid Fever on the Heart and Vessels.

The condition of the heart and vessels in 183 individuals who have passed through typhoid fever at Johns Hopkins Hospital has been carefully studied. It is recognized that these results are based upon the analysis of too small a number of cases to justify final conclusions; the next 200 cases may considerably modify our view. Yet the fact that these 183 old typhoids are materially older, from a point of view of their hearts and arteries, than the average individual who has not had typhoid fever, would tend to support the views of those who regard this disease as an active element in the etiology of a considerable number of cases of cardiac hypertrophy and dilatation coming on sometimes in early life, as well as an important factor in the production of those vascular changes which Cazalis has happily called "la rouille de la vie."—(*The American Journal of the Medical Sciences*, March, 1904, W. S. Thayer).

Bursae of the Neck.

According to Verneuil, there are three fairly constant bursae of the neck:

1. Subcutaneous antethyroid or prae thyroid. This was described by Beclard and lies in the loose areolar tissue over the Adam's apple.

2. Deep subhyoid (Boyer's bursa). This was described by Malgaigne and is situated between the hyoid bone and the thyrohyoid membrane.

3. Superficial or subhyoid bursa. This was described by Verneuil and lies between the geniohyoid and the geniohyoglossal muscles.

Methods of Treatment.

1. General and local absorbents.
2. Simple incision and drainage.
3. Drainage and the use of a local irritant to produce adhesive inflammation.
4. Partial excision of the cyst wall.
5. Complete extirpation. This is by far the most satisfactory method of treatment.—(*The American Journal of the Medical Sciences*, March, 1904; Willis S. Anderson).

County Society News.

ALLEGAN COUNTY.

Allegan County Medical Society held its annual meeting in Allegan, Feb. 5th. The following officers were elected: President, Milton Chase, Otsego; Secretary-Treasurer, G. G. Taylor, Allegan; Delegate, W. H. Bills, Allegan; Alternate, S. T. Chase, Otsego. The visiting members were entertained at dinner by the local members.

G. G. TAYLOR, Sec'y.

BAY COUNTY.

Bay County Medical Society held its annual meeting in Bay City, Jan. 11th. The following officers were elected: President, M. Gallagher, Bay City; Vice-President, R. W. Brown, W. Bay City; Secretary, A. W. Herrick, Bay City; Treasurer, C. H. Baker, Bay City; Delegate, J. McLung, Bay City; Alternate, F. E. Ruggles, Bay City.

A. W. HERRICK, Sec'y.

CALHOUN COUNTY.

Calhoun County Medical Society held its first quarterly meeting for 1904 in Albion, Tuesday, March 1st, seventeen members being present. The new president, J. C. Borwn, occupied the chair. After the routine business was transacted, the scientific program, consisting of a study of business methods, was introduced by a paper from T. E. Sands on "Fees and Collections." The discussion which followed this paper was so long, interesting and important as to consume the allotted time of the meeting, and the other papers were held over. The general sentiment was that physicians should improve their business methods, more attention should be given to the keeping of accounts and rendering statements; fees should be so regulated as to be just to both parties, and after being earned should be promptly collected.

One new member, A. E. McGregor, was admitted. Dr. J. H. Reed, of Battle Creek, was elected delegate and F. A. Waples alternate to the State Society. The next meeting of the Society will occur in Battle Creek the first Tuesday in June.

W. H. HAUGHEY, Sec'y.

GENESEE COUNTY.

Genesee County Medical Society held its regular meeting in Flint, Jan. 26th.

Owing to the extreme inclemency of the weather and the temporary suspension of railroad traffic, the out-of-town members were unable to attend the meeting. The storm did not dampen the ardor of the twenty that were present, however, and the papers, one on "Diphtheria," by Robt. T. Dullam, and one on "Iritis," by T. S. Conover, were enthusiastically discussed. Several interesting cases were reported.

President Rumer, in assuming the duties of his office, addressed the Society as follows:

FELLOWS OF THE SOCIETY: In assuming the office to which you have kindly called me, I wish to assure you that I fully recognize the honor and compliment implied in electing me to preside over this most scholarly body of men and women. While I may not be able to preside with the dignity of my predecessors, nor be able to address you with the eloquence, wit or learning of the other members of the Society, I wish to say that I fully recognize the honor you have done me, and trust that our scientific work and fraternal and social relations will be both pleasant and profitable for the next year.

The life of that unfortunate individual called a "Country Doctor" is a mighty lonesome one, at best, and the gatherings of this character form a red letter day in his monotonous existence, for here he forms pleasant acquaintances and professional friendships. He sees the abilities and excellencies, as well as the deficiencies and shortcomings of his co-laborers. He likewise discloses to his fellows the merit or lack of merit belonging to himself. In other words, this self comparison that takes place in the minds of ourselves must show our failings and deficiencies, and where we can profit from others. Then in this gathering where the specialist, surgeon, and general practitioner discuss questions of general interest to all, there should be none so wise but that might get some light, and none so dull but that should be able to impart some information.

Here we have a chance in good natured debate to learn to give and take in repartee and argument, which is sometimes quite pleasant (for outsiders). And right here I wish to say that we might profit by a lesson from our legal brethren, not only regarding the business end of a physician's life, but their ability to give and take those "Solar Plexus" blows from each other with perfect good nature. You can see them in the court room calling each other right angled triangles or even the hypotenuse of a right angled triangle and shaking their fists at each other and in an hour's time you may see them as happy

and friendly as cherubims. But I fear it will require a wonderfully active imagination to picture an attorney as a cherub or cherubim, whatever that means.

I think these meetings will also have a tendency to do away with much of the petty rivalry, jealousy, and distrust that is found much too often among us, and which too often impairs public confidence in us as well as giving us some very unpleasant recollections.

I must say that I would like to see at one of our meetings during the coming year a few practical papers on subjects of business interest to the members of our profession. It is a matter of pride to me and probably to all of us that there is no class of business men who devote so much of their time or donate as much of the things of this world to the less fortunate of our people as the physicians. We now, through our sanitary regulations and the result of the earnest research and study of our leaders in scientific investigation, are able to prevent epidemics of communicable diseases which formerly brought sorrow and desolation to the people, and often almost depopulated large and populous areas. Strangest of all, the medical man knows that while he is doing all of this, he is stopping his own income; is taking the bread out of his own mouth as it were. I believe that while it would not be best for us to substitute the spirit of commercialism for that of philanthropy, the spirit of selfishness for that of altruism, I do believe that we might devote a portion of our time we now spend in philanthropy in considering how we might best devise ways and means of bettering our own condition.

Then I have wondered many times if we would make a more united effort regarding medical legislation if we could not accomplish more than we now do. There is not a physician here in this room to-day but who ought to wield quite an influence politically in his community. The people look to you for advice when in trouble, and they will listen to you in other matters if you take the pains to talk to them. And I think that as intelligent a body of men as the physicians of this county, if standing with an unbroken front, could wield public opinion on matters of medical legislation as perfectly as one could wish. In other words I think our Society should accomplish and will accomplish many things in bettering our own condition.

These Society meetings ought to produce a firmer and more lasting friendship among its members; a means of putting the business end

of our work on a better footing; a needed relaxation from professional grinding; and an exchange of ideas that should make more successful practitioners of us all.

J. C. Willson was chosen delegate to represent the Genesee County Medical Society on the Board of Delegates of the Michigan State Medical Society and H. R. Niles was elected alternate.

At six o'clock a recess was taken and the members adjourned to the Dryden café, where a banquet was served.

H. R. NILES, Sec'y.

HILLSDALE COUNTY.

The Hillsdale County Medical Society held its first meeting of the new year, Jan. 22d, at Hillsdale.

PROGRAM.

"Exophthalmic Goitre," A. Striemer, Hillsdale. The subject was very ably handled and the latest researches were reviewed.

"The Treatment of Some of the Acute Diseases," W. H. Baldwin, Quincy.

Abstract—

1. Introduction. I am about to present to you a few thoughts gathered from practical experience upon this subject. By proper therapeutic treatment, medicinal and hygienic, many of the acute diseases can be aborted, the course of many more can be shortened and nearly all can be alleviated and the patient made more comfortable and complications prevented.

2. Pneumonia—(a) Early Stages.

I. Calomel: Grs. $\frac{1}{4}$ every $\frac{1}{2}$ hour until 2 grains have been taken. This is done to open up all the avenues of secretion, excretion and elimination.

II. Epsom Salts: A liberal dose is taken one hour after the last dose of calomel is given. The purpose of this is to produce watery elimination.

III. Codeine Sulphate: The patient is given gr. $\frac{1}{2}$, followed every three hours by gr. $\frac{1}{4}$, to produce as much physiological rest for the diseased lung tissue as possible.

b. Fully developed cases.

I. Elimination of sacraficial products by calomel.

II. Intestinal antiseptics, calomel, and sulphocarbolates. I believe the success of this treatment is due to the power of these drugs to arouse glandular secretions rather than to their antiseptic effects.

III. Stimulation: Strychnine gr. $\frac{1}{20}$ to $\frac{1}{40}$ every three hours during the 24 to 48 hours embracing the crisis.

Alcohol: Given under no circumstances, in any form, because of the after depression.

Nitroglycerin: This will serve your purpose much better.

IV. Cough Sedative: Codeine sulphate throughout the disease.

V. Bleeding: Indicated under certain conditions.

3. Typhoid Fever—(a) Elimination: Bowels should be kept moving freely several times a day, keeping well within bounds of exhaustion.

(b) Antiseptic: I don't believe it is possible to disinfect the 25 feet of intestine with drug per se except to a limited extent.

(c) Increase of the natural secretions (calomel, sulphocarbolates, Tr. Iodine, Eucalyptol, Thymol, Podophyllum, Turpentine). Bile is itself a natural antiseptic. The secretions of the liver, pancreas, spleen, and intestines are checked in this disease by loss of appetite and the absence of food. These organs become congested. By the use of the above drugs this is overcome to a large extent.

(d) Conclusion: Extreme quiet, rest by drugs if necessary; the elimination and antiseptic treatment have made the prognosis of typhoid fever much better.

4. Diphtheria: The mortality has been decreased greatly under the use of antitoxin.

5. Measles: The use of diuretics, diaphoretics and cough sedatives have shortened the course of this disease by several days.

6. Whooping Cough: It yields usually in three weeks to iodized calcium.

7. General Conclusions: In the light of all this evidence, I have but pity for the man who says in this day that the acute diseases are not benefited by treatment.

"The Relation of the Appendix to Pelvic Disease," Reuben Peterson, Ann Arbor.

B. F. GREEN, Sec'y.

LAPEER COUNTY.

Lapeer County Medical Society held its regular meeting Jan. 13th, at Lapeer (see Vol. III, p. 90 of *The Journal*).

Mortimer Willson, of Port Huron, read a paper on "Relations of the Nervous System to Some Diseases of the Intestines."

Abstract—

The great emphasis laid on utero-ovarian reflexes has possibly to a degree diverted the minds of many physicians from those reflex neuroses arising from intestinal disease. I have

seen quite a number of cases among women whose nervous disorders have been referred to some disease or displacement of the uterus or its adnexa, and who have been subjected to much local treatment, whose real disorder proved on a closer study to be a chronic constipation. Some believe the bowel trouble is primary and the nervous disorder secondary, while others feel sure that the bowel trouble is the result of a nervous disorder. Intelligent treatment will cure many of these cases. Concerning treatment there should be a rest of body and mind, a change of environment if possible. The patient should be placed on a mixed diet with meat but once a day, given plenty of water and fresh fruits. Ox gall and pancreatin are the most useful drugs in this class of cases.

H. E. Randall read a paper on "Peritonitis." The doctor takes up the question of differential diagnosis and strongly urges the necessity of early diagnosis and operation in perforation cases.

W. J. Kay presented a paper on "Hydro-Therapeutics." The point of the paper is to impress the physicians that it is necessary to show how to carry out Hydro-Therapeutic treatment.

H. E. RANDALL, Sec'y.

MARQUETTE COUNTY.

Marquette County Medical Society held its monthly meeting in Marquette, Feb. 17th. E. H. Flynn, of Marquette, presented a paper on "Placenta Previa and Its Treatment."

When the placenta is attached, in whole or in part, to that portion of the uterus which is dilated during labor, for the passage of the child, it is called *prævia*. Some writers make four divisions of placenta *prævia*.

1st. Lateral, in which the placenta is attached toward the upper part of the inferior zone.

2nd. Marginal, in which the placental edge comes down to but does not cover the internal os.

3rd. Partial, in which the internal os is partially covered by the edge of the placenta.

4th. Complete, in which the internal os is completely covered by the placenta.

Placenta *prævia* occurs about once in one thousand cases of labor, although the figures, as to its relative frequency, are widely divergent.

The management of placenta *prævia* is a very serious business.

In obstetrical practise, nothing is more so, not excepting that of puerperal convulsions, now so well understood, as to its treatment. In placenta

praevia there is no fixed treatment applicable to all cases and at all times and under all circumstances.

Treatment needs to be prompt and well directed, actuated by intelligence and skill and courage; the wise obstetrician will adapt his treatment to individual cases and to conditions that may arise in each and every case. There is no safety to mother until delivery has been effected, by means natural or artificial; even after this, complete safety is not assured.

The two chief dangers to mother is loss of blood and septic infection; to the child, the risk of its life is greater. The chief principle of treatment then is promptness, and means to control excessive hemorrhage and combat septicemia.

A patient, who is suddenly attacked, in the latter period of pregnancy with hemorrhage, if only very mild, should take the recumbent position for, unavoidable as this kind of uterine hemorrhage is, still, in a measure at least, it is provoked by some bodily exertion, such as lifting, straining at stool or sexual intercourse. Its occurrence at any time in the latter part of pregnancy, demands an appropriate examination to determine the conditions of the cervix-uteri, the presence and degree of abnormal presentation of the placenta the position and presentation of the child in utero, as well as its life.

If there is no evidence of labor and no dilation of the os, all that is necessary to do is to thoroughly irrigate the vaginal canal with sterilized hot water, medicated or otherwise, and tampon the vagina, and await results.

If the labor pains are commencing, the firm application of a clean abdominal bandage will stimulate, further, these contractions, and aid to press the presenting portion of the fetus more firmly against the dilating cervical canal and lower segment of the uterine wall, now bleeding. Dilation of the cervix will soon take place, and the uterus almost surely brought into action. The membranes are now ruptured, artificially, and the presenting part of the child can then be well detected and the hemorrhage, in most instances, controlled. If further delay and danger demand active interference, the forceps may be brought into play and labor speedily finished. If it is a Breech presentation and hemorrhage is excessive, the feet may be brought down. Pressing of hips will compress bleeding vessels, and nature will herself complete the expulsion.

Abnormal presentation of fetus are relatively more common in cases of placenta praevia, because labor, then, is often premature, and the

placenta often displaces what would, otherwise, be a normal presentation.

Permit me, at this time, to refer to a quite common accident to the maternal "soft-parts" due, I think, to anxiety or undue haste in the application of the forceps, with a cervix dilatable, but not dilated, namely, the creation of a deep cervical rent, wherein the circular artery of the cervix is ruptured, bleeds very freely, enhancing the dangers of this anti-partum hemorrhage of placenta praevia. Immediate stitching of the rent parts is the only thing to do.

Personally, I have but little confidence in the use of any rubber dilator, either to induce labor or to dilate the cervical canal. A tampon, properly applied, that will control hemorrhage has been all sufficient in every case.

It seems to me that Barnes method in complete implantation of the placenta, with hand in the vagina and one or two fingers placed within the uterine cavity, as far as they will reach, insinuated between the placenta and the uterine walls, they are swept around in a circle to separate the placenta on that side, when separation has spontaneously begun, or where the attachment is least extensive complete the separation on that side, hook it down and place it closely against the opposite side; the cervix then retracts, the membranes are ruptured and delivery hastened.

The separation of the placenta, as above described, is far better for mother and child than to go through it, for the performance of any artificial delivery.

Some authors advise the operation of Cesarean section, in case of central placenta praevia, with an os closed rigid and hemorrhage profuse. Under the following circumstances this operation may be seriously considered undilated os, hemorrhage uncontrolled by the first application of a tampon, child at term and living temperature normal, patient not greatly reduced by loss of blood. I do believe that such favorable circumstances are rare, indeed. Our first intimation of such a condition is a profuse hemorrhage. Such a patient is a very poor subject for surgery and the possibility of a viable child is small.

Ergot has a limited use in this disease, for the purpose of stimulating contraction, after dilatation has occurred, and always "post-partum."

The recumbent posture ought to be prolonged several days after that of normal delivery.

W. S. Picotte, Health Officer of Ishpeming, reported that in the year 1903 there were 139 cases of diphtheria in that town with a death rate

of 9%. Antitoxin was used in almost, if not all, of the cases.

A. W. Hornbogen, of Marquette, was elected as delegate to the State Medical Society, with T. M. Cunningham as alternate. Dr. McHugh, of Ewen, was elected director, to fill the unexpired term of J. C. Anderson, of Grand Marais.

The Houghton County Medical Society, through Councilor Felch, has invited the members of this Society to their next meeting, held on the second Tuesday in March.

H. J. HORNBOGEN, Sec'y.

NEWAYGO COUNTY.

The Newaygo County Medical Society held its regular meeting in Fremont, Jan. 14th. After partaking of an excellent banquet, given by our President, N. De Haas, the regular business session of the Society was carried through with great enthusiasm. W. T. Dodge, of Big Rapids, read a paper on "Fractures."

Abstract.

Inasmuch as the subject of fractures is so ably and so exhaustively handled in text books, I have concluded to give my views on the treatment of a few special forms. Colles fracture is the most frequent one we have to treat. This injury should not be treated as a fracture after bones have been properly replaced. Place arm in a splint for a few days. In a week begin passive movements of joint with massage and manipulation. Perfect results follow this treatment. In the handling of all classes of fractures use simple splints and appliances. In fracture of a leg for a temporary splint use a pillow fastened on with bandages. After the swelling subsides, apply plaster cast. Fracture of femur treat with extension and counter extension. Finally do not be in a hurry to amputate. In case of doubt surround injured member with warm antiseptic dressings and wait. The shock of an amputation will be less in a few days than at the time of accident, and many seemingly helpless limbs will be saved.

The paper was well discussed by N. De Haas, G. W. Nafe, J. W. McNabb, C. Whitehead, W. A. Kuhn and F. H. Brown.

F. H. BROWN, Sec'y.

OTTAWA COUNTY.

The Ottawa County Medical Society held its annual meeting December, 1903, at Grand Haven. The following officers were elected:

President, H. Kremers, Holland; Vice-Presi-

dent, A. Vander Veen, Grand Haven; Secretary, D. G. Cook, Holland; Treasurer, A. Leenhauts, Holland; Delegate, A. Vander Veen, Grand Haven; Alternate, E. Hofma, Grand Haven. D. G. Cook, Sec'y.

SHIAWASSEE COUNTY.

Shiawassee County Medical Society held its regular meeting March 1st, at Owosso.

D. H. Lamb, of Owosso, presented an interesting paper on "Some Tropical Diseases." He dealt principally with malaria, diarrheal disorders and beri-beri, showing the last to be essentially a disease of the nervous system, as revealed by post-mortem evidence.

The Society adopted a resolution favoring the passage of a bill appropriating \$24,000,000 of national funds for the building of country roads.

CHAS. SHICKLE, Sec'y.

ST. JOSEPH COUNTY.

St. Joseph County Medical Society held its second annual meeting at Three Rivers, Jan. 12th. The following officers were elected:

President, T. J. Haines, Three Rivers; Vice-President, W. A. Ferguson, Sturgis; Secretary, L. K. Slote, Constantine; Treasurer, A. F. Kingsley, Centerville; Delegate, M. Sabin, Centerville; Alternate, J. R. Williams, White Pigeon.

L. K. SLOTE, Sec'y.

WAYNE COUNTY.

SECTION OF INTERNAL MEDICINE AND PATHOLOGY,
MARCH 14, 1904.

"Trypanosoma; Flagellate Organism of the Blood;" F. G. Novy, Ann Arbor.

Abstract—

1. Classification:

Micro Organisms	I Plant	{ (1) Bacteria (2) Moulds (3) Yeasts
	II Borderland organisms (ultra visible)	
	III Animal	{ (1) Amœba (2) Flagellates (3) Sporozoa a. Malaria b. Texas cattle fever

The most important of the Flagellates is the trypanosoma.

2. Varieties of the trypanosoma:

I. *Trypanosoma lewisi* (1876): Found in blood of rats, birds, fish, frogs, etc.

II. *Trypanosoma evansi* (1888): "Surra." Found in horses in India, Manilla, etc. It is a fly disease.

III. *Trypanosoma brucei* (1895): "Nagana." Also called Tsetse fly disease. Livingstone mentioned it as far back as 1856.

IV. *Trypanosoma rougeti* (1896): "Dourine." It occurs only among breeding horses. It is found in Algeria, Egypt, etc.

V. *Trypanosoma elmassiani* (1901): "Cadéras." Here you find a paralysis of the hind legs of the horses in South America. It is not a fly disease. It is probably spread by fleas or lice.

VI. *Trypanosoma duttoni* (1902): "Gambian fever."

VII. *Trypanosoma zousfana* (horse disease).

VIII. *Trypanosoma castellani*: "Sleeping Sickness." The English commission, headed by Col. Bruce, gave a very complete demonstration that sleeping sickness is caused by trypanosoma. They proved that a species of the Tsetse fly could convey this disease from man to monkeys. We may be justified in saying that "Gambian fever" is the first stage and sleeping sickness the last stage of this disease.

3. Summary of *Trypanosoma* Diseases:

I. They are present all over the world, save in North America. As they have not been looked for here, of course they have not been found.

II. Transmission: In many cases at least flies, fleas and lice are the carriers of this disease.

III. Growth on Cultural Media: F. G. Novy was the first to grow any of the flagellates.

(a) *Trypanosoma lewisi*: Novy in May, 1902, grew this organism on cultural media. It has been growing now 22 months and in this time it has been transplanted sixty times. It is slowly becoming attenuated, however. It is extremely sensitive and dies within 2 and 3 hours after the death of the rat in whose blood it is living.

(b) *Trypanosoma brucei*: Novy has been growing this on cultural media for 7 months and in this time it has been transplanted 15 times.

(c) *Trypanosoma evansi*: Novy got a culture of this from Manilla and kept it alive for 65 days as first generation. But was unable to transplant it as the culture was 38 days old when it reached him. This agrees with the *Trypanosoma lewisi* which can't be transplanted after 30 days artificial growth.

IV. Cultural media used; plain agar, to which had been added rabbit's blood.

V. Vaccination against the disease: This can't be done as yet successfully. In mice suffering with trypanosoma, 1cc of human blood serum or a given dose of arsenic will cause the organisms to disappear from the mouse's blood temporarily, but they return. By keeping this up an animal can be kept alive for 150 days, when without treatment they die within 5 days. Still this is not a cure for the animals; all (save 4) died eventually from the disease.

VI. Method of Movement of the *Trypanosoma*: It swims with its flagellum end forward; its blunt end backwards. Its motion is wavy and rotary, due to its undulating membrane or fin. It pushes its way here and there among the red corpuscles which, however, it never enters.

VII. Life History: It would seem from certain of Novy's results that the trypanosoma may be but one stage in the life history of an organism, another stage of which is much more minute and apparently invisible.

VIII. Work of Fritz Schaudinin: He has done considerable work on certain organisms (*Proteosoma*, *Halteridium* and *Haemamorba*) found in the red blood cells of birds. He found by the union of the male and female elements of the proteosoma and the union of the male and female elements of the *Halteridium* a trypanosoma was formed in the intestines of mosquitoes. The *Haemamorba* looks at first sight like a spirillum. After careful examination it is found to be a trypanosoma. Schaudinin suggests that spirillum diseases may be in reality trypanosoma diseases. Another suggestion of his is that perhaps yellow fever is due to the trypanosoma.

F. G. Novy exhibited, under microscopes, cultures of the lewisi and brucei and fresh blood from mice containing the same, also an agglutinated culture and a number of stained blood smears containing the different varieties.

G. L. C.

Miscellaneous.

NEWS ITEMS.

The American Medico-Psychological Association will hold its next annual meeting in St. Louis, May 30th to June 3rd, inclusive.

The Cheboygan County Medical Society held its third annual banquet at New Cheboygan Hotel, Feb. 10th. The attendance was large. Each and every one had a most enjoyable time.

The *Archives of Pediatrics* has absorbed the *International Medical Magazine*.

Arrangements have been made for uniting the New York College of Pharmacy with Columbia University.

Johns Hopkins Hospital is said to have lost an income of sixty thousand dollars yearly by the late Baltimore fire. The income was from stores and warehouses located in the burned district.

Isabella County Medical Society held its regular meeting in Mt. Pleasant, Feb. 10th. After adjournment, a banquet was served and the balance of the evening was spent in social enjoyment.

The Dean of Harvard Medical School says that the wisdom of requiring an A. B. degree is shown by comparing the scholarship of the classes—vastly higher in those having the degree. It follows that the qualifications of the future graduate must be higher.

Dr. Simon Pollak, at the age of ninety, after an active practice of seventy years, died at St. Louis last December. With a wide experience in general practice, for sixty years he practiced ophthalmology in St. Louis, and left a memory of encouraging speech and helpful deeds in all his associations.

The memory of the late Edmund Andrews was honored by a public meeting of the representatives of the several medical, scientific, social and religious societies, of which he had been an active member. To these was added a representative of the University of Michigan, where he gradu-

ated, and in which he had been an instructor, Dr. Victor C. Vaughn.

Dr. P. Maxwell Foshay, of Cleveland, Ohio, was married to Mrs. Emily Morgan Grim January 6th. Early in April he will move to Chicago, Ill., as the Resident Medical Director of the new branch of the Mutual Life Insurance Co., of New York. He will be remembered for his activity in connection with the organization of the medical profession, being a member of the A. M. A. Committee on this matter. His friends in Michigan wish him abundant success in both changes in his life.

CHANGE IN MEMBERSHIP.

(Feb. 5th to March 15th.)

NEW MEMBERS.

G. H. Baert, Grand Rapids, Mich.
 W. H. Barnum, Fremont, Mich.
 T. B. Breck, Freda, Mich.
 H. V. Brooks, Saginaw, Mich.
 F. H. Brown, Newaygo, Mich.
 E. J. Carney, Durand, Mich.
 E. M. Chauncy, Girard, Mich.
 N. DeHaas, Fremont, Mich.
 J. O. Edie, Grand Rapids, Mich.
 F. F. Grillet, Farwell, Mich.
 L. L. Kelley, Farwell, Mich.
 W. A. Kuhn, White Cloud, Mich.
 E. P. Lockart, Norway, Mich.
 A. E. McGregor, Battle Creek, Mich.
 J. W. McNabb, Fremont, Mich.
 G. W. Nafe, Fremont, Mich.
 W. Northrup, Grand Rapids, Mich.
 S. G. Olmstead, Kawkawlin, Mich.
 W. B. Richmond, Mt. Pleasant, Mich.
 A. L. Robinson, Allegan, Mich.
 Chas. Russel, Hastings, Mich.
 W. A. Sayers, Shepherd, Mich.
 M. L. Teeple, Sand Lake, Mich.
 E. W. Tolley, Grand Rapids, Mich.
 W. J. Wall, Elba, Mich.
 L. S. Weaver, Fremont, Mich.
 R. Webb, Grand Rapids, Mich.
 F. Yonkers, Woodville, Mich.

CHANGE OF ADDRESS.

A. O. Boulton, Attica, Mich.
 O. J. East, Constantine, Mich.
 H. B. Farnsworth, Spokane, Wash.
 S. E. Kerby, Dayton, Wash.
 R. A. Paradise, Bessemer, Mich.

SOME GROUPS OF KIDNEY DISEASE.

1. Disease of the kidney may occur as a secondary lesion in

Certain infectious and inflammatory diseases, as:

- (a) Typhoid fever.
 - (b) Pneumonia.
 - (c) Measles.
 - (d) Cerebro spinal meningitis.
 - (e) Erysipelas.
 - (f) Sepsis.
 - (g) Peritonitis.
 - (h) Scarletina
 - (i) Diphtheria
- } in early stage.

I. Urinary Picture:

- (a) Albumin (small quantity).
- (b) Casts (a few).
- (c) Urea (normal in amount).

II. Pathology: A simple acute degeneration of renal epithelium.

III. Symptoms and Signs:

- (a) No headache.
- (b) No muscular contractions.
- (c) No dyspnoea.
- (d) No contraction of arteries.
- (e) No dropsy.

IV. Prognosis: This is good; urine becomes normal; no subsequent kidney symptoms occur.

V. Treatment: None is necessary.

2. Disease of kidneys occurs in influenza in a considerable number of cases.

I. Urinary Picture:

- (a) Albumin (often in large quantities).
- (b) Casts.
- (c) Blood (sometimes).
- (d) Quantity—Not diminished in mild cases; much diminished in severe cases.

(e) Specific gravity (not lowered).

II. Pathology: Acute exudatus nephritis.

III. Symptoms and Signs:

- (a) There are none in mild cases.
- (b) Dropsy or convulsions may occur in severe cases.

IV. Prognosis: As a rule the nephritis is transitory and the patients recover inside of four weeks.

3. In Scarletina and Diphtheria we find three forms of kidney disease:

I. Simple acute degeneration of renal epithelium as seen in (1). This form occurs during the first week of the disease.

II. Acute exudative nephritis. This arises during the active period of the disease.

(a) Urinary Picture: Albumin (much); casts (many); blood (sometimes); quantity (decidedly reduced in amount).

(b) Symptoms and Signs: Subcutaneous dropsy; cerebral symptoms.

(c) Prognosis: Generally it runs its course within four weeks and in patients who survive the original disease, the kidney tissue returns to its natural condition. However, this form may be of the severe type and prove fatal.

III. Post-Scarlatinal and Diphtheria Nephritis:

(a) Urinary Picture: Albumin and casts steadily present in urine; urea (diminished in amount).

(b) Symptoms and Signs: Dropsy, secondary anemia, cerebral symptoms.

(c) Prognosis: Course is subacute and protracted; it may last for months or years; the anatomical changes in the kidney are such that this organ can never return to its normal condition.

4. Disease of the kidney in yellow fever and in acute yellow atrophy of the liver:

I. Urinary Picture: Albumin (much); casts (many); blood.

II. Pathology: The kidney lesion is a destructive one. Most of the renal epithelial cells become necrotic and desquamate. Considerable exudation from the blood vessels occurs.

III. Symptoms and Signs: There are no distinctly renal symptoms that can be separated from those of the primary disease.

IV. Prognosis: The lesions in the kidneys are so extensive that it seems as if they must have much to do in causing the death of the patient.

5. Diseases of the kidneys, caused by an endocarditis or associated with it, are separated into the following groups:

I. Chronic Congestion:

(a) Urinary Picture: Albumin (small quantities); casts (a few hyaline); quantity (diminished somewhat); specific gravity (normal or high); urea (proportion of it to ounce of urine is increased).

(b) Symptoms: Dropsy (more or less is often present); cardiac symptoms (not very severe).

II. Chronic Congestion followed by Chronic Exudative Nephritis:

(a) Urinary Picture: Albumin (large amount); casts (considerable number); quantity (scanty); specific gravity (lowered); urea (proportion to ounce of urine is decreased).

(b) Symptoms: Dropsy (there is a great deal); cardiac symptoms (more severe than in I).

III. Chronic Congestion, followed by Chronic Nephritis without exudation:

(a) Urinary Picture: Albumin (little except when arteries are contracted); quantity (varies); specific gravity (low); uret (proportion to ounce of urine is diminished).

(b) Symptoms and Signs: Dropsy (not constant); loss of flesh and strength (marked feature); attacks of contraction of arteries are frequent.

IV. Chronic Degeneration:

(a) Urinary Picture: Albumin (little); quantity (varies); specific gravity (unchanged).

(b) Symptoms and Signs. Feebleness; anemia; patients die with a prolonged period of scanty urine, delirium, stupor and in typhoid state.

V. Chronic Degeneration followed by Chronic Exudative Nephritis:

(a) Urinary Picture: Albumin (large amount); casts (not constant); quantity (small); specific gravity (rather high than low).

(b) Symptoms and Signs: Cardiac symptoms (severe); dropsy (well marked); feebleness; anemia; course is rapidly worse.

VI. Chronic Nephritis, either with or without Exudation, not preceded by Congestion. History of chronic nephritis lasting for months or years; then at some time

(a) A stenosis of the valves becomes tighter.

(b) An insufficiency becomes greater.

(c) The heart's action fails and

(d) The circulation is insufficiently carried on, and

(e) Cardiac symptoms are added to those of nephritis.

6. Kidney disturbances are associated, sometimes with pregnancy.

7. Albuminuria, casts in urine, and anemia occurring in young people.

I. Simple Anemia in young women, with albumin and casts in urine. Given routine iron treatment they get well. The morbid conditions of the kidneys are transitory and unimportant.

II. Cases which behave as if they had a mild exudative nephritis. There is some headache, some aching in back and limbs, loss of appetite, a little nausea, and the feeling of malaise. You might take it for a case of influenza if you did not examine the urine. This condition lasts from one to two weeks, and then disappears and the patient is well.

III. There is a class of young persons who for months or years have a little albumin and a few casts in the urine; associated with this is a moderate secondary anemia. As a rule these cases get entirely well. It is difficult to say whether

or no they have a true nephritis. The treatment consists of giving them plenty of food and out-of-door exercise. Iron is not of much service in this class of cases.

IV. Cyclic Albuminuria:

8. Primary Nephritis:

I. Etiology: Apparently no cause for it; more common in young people (12-20 years of age); runs a subacute course.

II. Urinary Picture: Albumin (large amount); casts (considerable number); quantity (decreased); blood (sometimes); specific gravity (normal or a little below).

III. Symptoms: Dropsy of face and hands, anemia (may be first and only symptom); headache, sleeplessness, loss of appetite, nausea, vomiting (may occur).

IV. Prognosis:

(a) Patients get well but kidneys are left more susceptible to fresh attacks of inflammation. Sooner or later these cases are apt to develop a chronic nephritis.

(b) Acute attack runs into a chronic nephritis which may last for years. They are apt to die from an exacerbation of the nephritis or in a condition of chronic uremia.

(c) The first attack is succeeded by other attacks which follow each other at intervals of weeks or months. Between attacks the patient feels comparatively well. Each attack is more severe than the preceding one and finally there comes an attack which proves fatal.

(d) The patients steadily get worse, but yet it may be months before their sufferings are terminated by death. Not only does treatment fail to control the nephritis, but we are unable even to alleviate the symptoms.—(*Medical Record*, Feb. 6, 1904. Frances Delafield.)

The Excision of the Cervical Sympathetic.

Conclusions. 1. Excision of the superior cervical ganglion of the sympathetic nerve is worthy of a trial in those cases of simple atrophy of the optic nerve which resist measures less heroic.

2. It is yet impossible to say whether the bilateral operation is advisable in unilateral optic-nerve atrophy.

3. The value of sympathetomy in congenital hydrophthalmos has not been demonstrated.

4. In exophthalmic goiter, complete excision of the cervical sympathetic is followed by a larger percentage of cures than in any other procedure. Thus far no deaths have been recorded. The number of operations, however, is small and final conclusions can be announced only after a large number of cases shall have been treated by this method.—(*The Journal of the American Medical Association*, Jan. 30, 1904, James Moore, St. Louis.)

Correspondence.

Editor of Journal State Medical Society:

SIR: I was called upon to-day by a gentleman representing the International Collection Agency, of Syracuse, N. Y. If I am not mistaken this same company was exposed by one of the leading weekly journals a few months ago. Their scheme is to get you to promise to send in some bad accounts for collection. All the doctor had to do is to pay \$7.00 per year as a membership fee, which as they tell you comes out of the collections; and all money is paid direct to the doctor.

To a busy doctor the idea is a good one, and in a great many cases he will sign a contract on the above plan. Now, if the doctor will take time to read the contract (which by the way the agent will try and prevent you from doing, by talking and directing your attention to other matters), he will find that you agree to send in not less than a stated amount of collections per year, and you also agree to remit to them the first \$35.00 collected on said accounts, being as they say 5 years' dues. Should the doctor in his hurry sign the contract and find out its contents later, he would probably say to himself, I won't send them any accounts, and then I won't owe them anything. There is where they have him; he has agreed to send them a certain amount of accounts each year, and if he does not do so, they sue the doctor for \$35.00, and get it, as they have done a number of times. It's a scheme to catch the busy doctor, or one that doesn't take time to read what he is signing. They came near getting me, but I happened to read it over and told them it was a skin game. He backed out of the office without any argument. I write this thinking perhaps it will prevent them from working the scheme on a too much worked profession.

Respectfully yours,

THOS. F. BRAY,

Sec'y Osceola Co. Med. Society.

DANGER FROM TYPHOID FEVER.

WARNING TO CITIES AND VILLAGES HAVING A GENERAL WATER SUPPLY.

The bulletin issued by the Michigan State Board of Health for the month ending February 27, 1904, indicates that typhoid fever was much

more prevalent than the average for the corresponding month in the ten preceding years. Of the reports received more than twice the average proportion stated the presence of the disease. A contamination of the water supply would account for the unusual prevalence of this disease. In winter that does not usually occur in country districts, the contents of privies being frozen so they cannot leach into wells. The unusual reports of typhoid fever came from cities having a general water supply. The inference is that these places are using water from a polluted reservoir, river, or lake, and it is earnestly suggested that the local authorities should promptly notify the citizens to *boil the drinking water*. It is hoped that the recent fatal experience at Butler, Pennsylvania, may not be duplicated in Michigan.

HENRY B. BAKER.
Secretary.

MICHIGAN STATE BOARD OF HEALTH,
Office of the Secretary.
Lansing, March, 1904.

Editor Journal of Michigan State Med. Society:

MY DEAR DOCTOR: You probably know of appointment of a legislative committee at the Ann Arbor conference. You may not know of the duties of that committee from a member of same direct, hence this note to you.

I. We are first to seek legislation through a general law that will give health officers power to contract bills in contagious disease outbreaks and especially relative to quarantine of indigent persons, etc.

II. The enactment of a bill that will state just what diseases should be quarantined, and with perhaps the including of tuberculosis, pneumonia and syphilis.

III. The enactment of a bill which provides a fund for the expenses of local health boards and a clause compelling each local board of health to send a delegate and defray his expenses each year to the conference of health officers.

IV. The passage of a bill providing for a State Sanatorium for Consumptives.

V. A bill to provide for the registration of births.

The subjects should vitally interest the entire profession in the State, and I trust you will give this subject wide publicity.

Yours fraternally,

W. G. BAYLEY,
Carlton Center, Mich.

Book Notices.

A SYSTEM OF PRACTICAL SURGERY. By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tübingen and J. von Mikulicz, of Breslau. Edited by Dr. William T. Bull, of New York. To be complete in five Imperial Octavo volumes, containing over 4,000 pages, 1,600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Volume I just ready. 936 pages, 361 engravings, 18 plates. Lea Brothers & Co., Philadelphia.

The lack of a good text book on surgery has long been a pressing one. The other domains of practical medicine seem to have been much more satisfactorily treated than that of surgery. Long systems have been published which have proved either not scholarly enough or too philosophical for the average medical mind. This work before us seems to have successfully steered a middle course, and while abounding in pathological data and details of original research, is still practical and easy of comprehension.

The work is encyclopedic in character. It is based on the second German edition, which has been revised and brought up to date by Dr. W. T. Bull and his collaborators. In the translation, they have added from their own wide experience such procedures and methods as have appealed especially to English and American surgeons.

The diagnosis of surgical complaints has been especially well considered and these things have been treated which have to be differentiated from operative cases. Thus in injuries to the head, concussion has been very ably discussed and the latest views given, although, of course, no surgical treatment is possible.

The first volume, which has just been published, covers the surgery of the head. Injuries and diseases of the skull and its contents are given the first consideration. Then the ear, with its malformations, injuries and diseases, is given full discussion, as far and perhaps further than belongs to the province of the general surgeon. For some reason the eye seems to have been omitted, although this may be taken up in a succeeding volume. An excellent article on the surgery of the face, including plastic surgery, is then given and made much more intelligible by means of numerous illustrations. Krause himself writes on the neuralgias of the head and their operative treatment. The remainder of the volume is taken up with the surgery of the salivary glands, jaw,

nose, mouth and pharynx. A good index to the volume is to be found at the end.

The number of illustrations is much greater than in the German text and are, as a rule, excellent. Some few are recognizable as having appeared before in another system, but as a whole they add greatly to the value of the work.

The style is clear and the press work and proof-reading well done. Should the remaining volumes come up to the initial one, the system will prove of great service as a reference work not only for surgeons but also for students and general practitioners.

—R. C.

REGIONAL MINOR SURGERY. George G. Van Schaick, M.D. Cloth, \$1.50; pp. 226. International Journal of Surgery Co., New York City.

This little book has been written to make the way of the General Practitioner a little easier. Those things, which all must be prepared to treat, are considered briefly and practically. No attempt at text-book completeness has been made and few references to other authors are to be found.

The directions as to asepsis are simple and sound and some practical points as to suturing are given. The regional minor surgery is then taken up, beginning with the head and considering the other portions of the body in turn. Only those things we all ought to know, and may have forgotten, are presented. In considering tracheotomy for example, the minute anatomy of the parts is not given but the advice is to cut down to the trachea and, if necessary, open it with whatever is at hand without waiting until the patient expires, for a tracheotomy tube, tracheal dilator, etc.

Short sections are devoted to the Genito-urinary system and the rectum and such things as foreign bodies in the urethra and the clamp and cautery operation for haemorrhoids are considered. Most minor surgery is and ought to be in the hands of the General Practitioner and he is often judged more by his results in these lesser things than in cases of typhoid and pneumonia, which may die in spite of everything.

The illustrations are numerous and bring out well the points desired. The author's style is concise and clear, and he gives many simple yet practical suggestions derived from a long hospital and dispensary experience.

R. C.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Chronic Inflammation of the Suprarenals of Infectious Origin.—E. Sargent, in an interesting paper in the *Archives Generales de Medicine* for Jan. 5, 1904, reports the case of a man of fifty-four, a coal carrier, who for several months had complained of pain in the scapular regions, had marked anaemia resembling that in carcinoma and a peculiar lassitude which made him keep his bed a good deal of the time. He presented no other symptoms on entrance to the hospital, but soon developed a temperature which reached 39.7 C. This temperature was later accounted for by an incidental stomatitis. But he began to have tremors of a convulsive form. Later he had attacks of syncope, epigastric pain and vomiting. Treatment was of no avail and the cachexia increased rapidly and no nourishment could be taken. Three months later he died. Autopsy showed the marked anaemia of all organs, but the only lesion found was a chronic inflammation of the suprarenals of the interstitial form. In commenting on the lesions found he says that the weakness, the anemia, the vomiting, abdominal pain, rapid pulse, the fainting spells are part of the picture to be found where there is deficient suprarenal secretion. He believed that he could trace this inflammation to an attack of typhoid fever, which seemed to precede the early symptoms found. Profound changes have been found to occur in these glands after acute infectious diseases of acute types, but if it should prove that chronic suprarenal cirrhosis, a disease limited to these glands alone, can occur without the discoloration of the skin due to involvement of the sympathetic nerves as found in Addison's Disease, we shall have a new disease due simply to chronic inflammation of the suprarenal alone.

Air Swallowing.—Strangely enough human "cribbing," aerophagia, has received little attention in medical literature. It is of course found principally in hysterics and neurotic individuals but is not uncommon in those who are much in the open air, notably among automobilists. The symptoms come on

shortly after eating with a sense of weight and distress in the epigastric region. This is later followed by eruptions of gas, often of immense quantities. Two hundred litres have been expelled in an afternoon. The distinguishing feature between this and that from indigestion is the lack of odor, while gastric troubles show carbon dioxide, hydrogen, nitrogen and sulphur. The patient may have dyspnoea, palpitation, dizziness, and vomiting.

Occasionally the air gets into the duodenum and may be taken for much more serious troubles. Where the trouble occurs in hysterics, prophylactic measures are to be taken for a cure. In nonhysterics the stomach tube will remove much gas and irrigation with chloroform water will also aid; or drachm doses of the water alone are useful. Where the air has got into the small intestine castor oil is especially useful in removing it, if used in small repeated doses. (H. Stren in *N. Y. Med Jour.*, Feb. 20, 1904.)

Moderate Drinking and Its Effects on the Body.—Anstie's limit of one and one-half ounce of absolute alcohol in twenty-four hours is at present hardly regarded as physiologically permissible. J. J. Abel, of Johns Hopkins, regards as "moderate" "one, or at most, two glasses of wine (10% alcohol), or one pint of beer, or their equivalents in terms of alcohol, in the twenty-four hours." This is about one-half of Anstie's.

It would seem as though the use of alcohol in medicine was diminishing, at least it is being more rationally used, especially as an aid to digestion, heart stimulation, tonic, etc. Kraepelin has found that the initial apparent stimulation following small doses of alcohol was followed by a retardation period ending in depression and slower mental activity. Quickened mental activity following abstinence has repeatedly been slowed by even as low quantities as 2½ ounces of alcohol taken for a few days again. (F. G. Benedict, *Bost., Med. & Surg. Jour.*, Feb. 18, 1904.)

SURGERY.

Under the charge of

MAX BALLIN.

Tubercular Hip-joint Disease, Particularly in Children:—Tubercular coxitis is a disease found mostly in children; of 586 cases in Koenig's clinic, 301 were between 1 and 10 years, 403 between 1 and 15 years of age. Hip-joint disease is mostly associated with other tubercular lesions of the body, hence this great mortality. Of 416 cases observed during 20 years, 168 died, most of them from tuberculosis.

As to treatment, Koenig holds that in children tubercular coxitis can be cured without any operative measures: (1) If the cases come under treatment early; (2) if there are no abscesses at an early stage of the disease; (3) if the bones are not diseased to a very large extent. The great majority of cases in children should be treated by conservative measures, which are mainly: (a) Rest to the diseased joint, procured by extension in bed, and later on, either by a well-fitted plaster Paris bandage around the pelvis, and the diseased leg, extending down to the ankle, or by an orthopedic apparatus; (b) general hygienic and dietetic treatment; (c) sometimes local injections of an emulsion of iodoform and glycerine are useful, especially after abscesses have formed. Abscesses should be open by trocar and the above solution injected. If relapses occur after three punctures, the abscess should be freely incised and curetted.

Of 202 cases treated by this conservative method, 140 were cured, 55 died, 7 are not cured. Of the 140 cured, 114 are walking without the help of any apparatus; 90 of these have some movement in the affected joint; 20 others walk with a cane.

The indications for excision of the diseased hip-joint in children are: (1) Long standing suppuration; (2) fistulous openings; (3) continuous fever; (4) increasing emaciation, and (5) great destruction of the bony structure of the joint. The younger the patient the longer Koenig waits before using surgical interference.

In cases of long standing suppuration, the shortening of the leg will not differ much, whether excision of the joint is performed, or after a cure by conservative measures.

In adults tubercular coxitis is always very dangerous. Early operation, that is, excision

of the joint, is the only hope for these patients, and even after operation the prognosis is bad. Of 29 operative patients between 20 and 60 years of age, only 8 were cured, 3 walked badly, 14 died within half a year after the operation (2 from sepsis, 12 from tuberculosis). Four were not cured and died from tuberculosis within six years of the operation. (F. Koenig, *Die Deutsche Klinik*, Berlin and Vienna, 1903.)

Mixed Tumors of Salivary Glands:—1. There is a group of extremely complicated tumors occurring in the facial region which contain elements from both epi and mesoblast in most intimate relation to each other.

2. The complicated structure of the stroma, containing as it does elements such as embryonic connective tissue, cartilage, bone, fat, and lymphoid tissue and very rarely striated muscle, is explained most easily by the assumption of an embryonic misplacement of mesoblast.

3. The structure of the parenchyma is so slightly characteristic in morphology that its epithelial nature in all cases can only be considered as probable; yet in about 24 per cent. of the tumors examined, the presence of epithelium is undoubted. The form and relationships of the cells of the parenchyma do not furnish sufficient data to justify these cells being regarded as of endothelial origin.

4. The theory of early embryonic displacement of epiblastic tissue during the process of formation of the parotid and submaxillary glands and the bronchial arches may account for many of the morphological peculiarities of the cells of these tumors, especially the lack of many typical features which we associate with epithelium. The same condition may be seen in the epithelial cells of the congenital moles, in which the epithelium is with difficulty distinguished from connective tissue cells, owing to its close connection with the stroma of the tumors and its undifferentiated type.

5. The mixed tumors of the salivary glands run a clinical course strikingly different from the sarcomata and carcinomata in that they are slow growing and generally benign. The regional lymph nodes are not invaded and recurrences are likely to remain local in a considerable proportion of the cases. (*Annals of Surgery*, February, 1904. Francis Carter Woods.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Tuberculosis of the Urinary System in Women.—Hunner reports in detail 35 cases of urinary tuberculosis, drawing especial attention to the diagnosis. The affection is more common in women than in men, the ratio of the reported operation cases being as 3 to 2. In this series of 35 cases, the right kidney was operated on in 17, the left in 18, and in 5, both kidneys were probably tuberculous at the time of the operation. The disease is one of young adults, 20 of the 35 being 30 years of age or younger.

The "past histories" of these patients were interesting. In 5, there had been scarlet fever, producing a possible "locus minoris resistentia." One case had suffered from a swollen left knee 4 years before admission; another from an obscure abdominal inflammation 10 years previously; a third had been operated on for tuberculous submaxillary glands; a fourth had had "malaria" as a child, pneumonia at 25 years, and cough and hemoptysis at 40 years. Other patients had been treated for rheumatism, appendicitis and la grippe.

In these cases, the probable duration of the disease varied from 2 months to 17 years, with an average of $4\frac{1}{2}$ years. The first-noticed symptoms were vesical in 17 of the 35, but a close scrutiny of the histories and comparison of the clinic and pathologic findings, convinces the author that in the great majority of cases, female urinary tuberculosis originates in the kidney. With the widest margin in favor of primary bladder infection, but 5 cases were classed under this heading. The author has seen but 2 cases of undoubted vesical tuberculosis, in which other portions of the urinary system were normal, and one of these had extended through the bladder wall from a primary genital lesion.

The physical condition of the patients varied greatly, some presenting the picture of health and others appearing to be at death's door. While bad hygienic surroundings are most important in producing the desperate condition, the two chief factors are lack of free drainage and the loss of sleep from irritable bladder.

A probable diagnosis can be made from a careful history alone. Pain in the back, side or inguinal region, together with a disturb-

ance of the bladder function, leads one to suspect tuberculosis. The kidney is usually palpable and tender, and the thickened ureter can generally be palpated per vaginam. While these conditions may be found in other forms of inflammation, tuberculosis being by far the most frequent, the patient should be warned against possible contamination of the surroundings by the urinary excretion. The finding of signs of tuberculosis elsewhere makes the diagnosis more certain.

It is confirmed by (1) the tuberculin test. (2) By finding tubercle bacilli in the urine. They can be found in practically every case. Do not make 20 or 30 slides in one day, but examine 1 or 2 daily for a week, for there is likely to be a shower of bacilli from a freshly broken down focus. It must not be forgotten that the urine may be clear for days, even when the patient is the most ill, due to the blocking of the ureter. (3) The injection of guinea pigs. (4) Cultures. The tubercle bacilli seldom growing, a sterile culture is most suggestive. (5) Cystoscopic examination. Only those who use this instrument can appreciate its value in accurately determining the exact conditions. A strong protest is made against the catheterization of the ureters, when the bladder is diseased.

The summary of the operations is as follows: Nephrotomy, 3 cases, 2 deaths (11 weeks and 2 years). Nephrectomy, 9 cases, 1 death (6 weeks), 8 living. Nephrectomy and partial ureterectomy, 7 cases, all living. Nephro-ureterectomy, 13 cases, all living. Nephro-ureterectomy, with partial cystectomy, 3 cases, 2 deaths (15 days and 6 days). There were thus 5 deaths, 2 of which were as the result of the operation. Sixty-three per cent. are now in good health. (*Johns Hopkins Hospital Bulletin*, January, 1904.)

Results of Hysterectomy for Carcinoma.—Glockner reports the results of the treatment of carcinoma uteri at the university clinic in Leipzig. Between 1887 and 1901, 974 cases, with an average age of $53\frac{1}{2}$ years, entered the hospital; of these 280 (26.9%), averaging $45\frac{1}{2}$ years, were operated upon. More than half of the patients waited over 3 months after the first symptoms before seeking relief. The cancer was cervical in 90%, fundal in 10% of the cases; 86.5% of the operations were vaginal. The total mortality for the 14 years was 8.4%, but this has been reduced to 3.3% during the past five years.

Of 132 patients observed for at least 5 years after the operation, 47 have remained free from recurrence; of these two-thirds were cases of fundal carcinoma. Seventy per cent of all returns came within the first year, and nearly 50% within the first 6 months.

The necessity of early diagnosis and operation is emphasized. (*Zent. f. Gyn.*, 1904. No. 4.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Radium.—Becquerel carried a small particle of radium in a glass tube in his vest pocket. It set up a dermatitis, followed in three days by a burn, and from this an ulceration resulted, taking about two months to heal. A tube containing radium attached to the back of a mouse resulted in its death in twenty-four hours. A few milligrams put beneath the skin of a mouse resulted in its death in three hours. Placed over the closed eyelids, a tube of radium gives a sensation of light. Seeds subjected for some time to the radium influence lose their power of germinating.

Sir Henry Crookes has carried out some experiments which show that radium has marked bactericidal properties. Caspari exposed cultures of the *Micrococcus prodigiosus* to a preparation of radium which destroyed the germs in three hours. Soddy of England has suggested the inhalations of the emanations of radium for consumption. Tracy of New York has very recently carried out some experiments in induced radioactivity. He finds a normal salt solution one of the best media for receiving this radioactivity. This property suggests the hope of finding an effective way of using it internally.

It has already been clearly proven that radium rays have a very decided influence in inhibiting the progress of diseased tissue. These emanations of radium seem to offer some advantages over the X-ray in the treatment of deep-seated cancer. The X-ray has not been a success in this affection. Owing to the penetrating power of the emanations of radium, it will be possible to apply these rays to the seat of the disease. Reports of cases of lupus, rodent ulcer, cancer, blindness, epithelioma, in which it has been used successfully, are appended. (Inglis, *Journal A. M. A.*, Feb. 6th, 1904.)

Dionin (ethylmorphine hydrochlorate).—A new agent in ophthalmic therapeutics. Conclusions:

1. That dionin possesses properties at present inherent in no drug thus far used in ocular therapeutics.

2. That it is an analgesic of no little power, and is frequently of value in alleviating the pain of iritis in those cases in which atropine does not relieve.

3. That the action of atropine seems to be enhanced by dionin.

4. That is has, upon the eye, a powerful vasodilator and lymphagogue action.

5. That it is of value, if used to the point of distinct reaction, in promoting the absorption of exudation deposits upon the anterior capsule in the pupillary space, and also in helping the absorption of post-operative debris after cataract.

6. That it certainly does help to clear up the corneal opacities in some cases of interstitial keratitis.

7. That it seems without effect in all other forms of corneal opacities.

8. That its influence on the glaucoma process is yet unsettled.

9. That it should be widely used and the effects of such use reported, in order that a final correct estimate of the value of the drug may be made. (*Therapeutic Gazette*, Feb. 13, 1904, Reber.)

Scarlet Fever.—In treating scarlet fever, use as an initial purge:

℞ Hydrargyri chloride mitis;
Sodii bicarbonates;
Sacchari albi, aa .06 or gr. j;

Met. ft. chart no j;
for the fever,

℞ Tincturae aconite radicis, 1. or mxvj;
Liquoris ammonii acetates, 60. or 3ij;

Met. Sig. Teaspoonful every 4 hours;
in the post febrile stage,

℞ Potassii citratis, 5. or 3i¼;
Tincturae ferri chloridi, 10. or 3iiv;
Aquae menthae pip, 30. or 3j;
Syrupi simplicis q. s. ad 120. or 3iv;

Met. Sig. Teaspoonful or more three times a day;

when the disease is ushered in by convulsions,

℞ Chloralis hydratis, 1. or gr. xvj;
Sodii bromidi, 4. or 3j;
Aquae distillatae, 30. or 3j;
Syrupi, ad 60. or 3ij;

Met. Sig. Teaspoonful as directed;
for high temperature, use warm baths and one-half grain doses of Phenacetin.

Throughout the disease, given plenty of warm drinks, carbonated water, or lemonade, and keep the nose and throat cleansed with a mild alkaline antiseptic; when streptococcal complications arise, use a good brand of anti-streptococcic serum.

For a stubborn cough, use,

℞ Heroini, .1 or gr. ij;
Terpini hydratis, 1. or gr. xvj;
Ammonii iodidi, 2. or gr. xxx;

Met. ft. caps no xvj.

Sig. One every 4 hours.

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Original Articles

SOME INVESTIGATIONS ON HAY FEVER.*

OTTO SCHERER,
Detroit.

John Bostock, before the Medico-Chirurgical Society of London, on the 16th of March, 1819, read a paper entitled "A Case of Periodical Affection of the Eyes and Chest," describing his own case. His attention was evidently attracted by the periodical annual return of the trouble, and bearing this in mind, he realized that he was dealing with a trouble entirely different from all known diseases, with a new clinical entity. This characteristic, the annual recurrence of the attack at about the same time, is of the utmost importance. When its reason is once elucidated, we will know vastly more of the nature of the affliction. Ignoring this feature of periodical recurrence, Wm. King, in 1843, denied that Bostock's "Catarrhus Aestivus" was a clinical entity. He confused with it ordinary catarrhs and asthma. Many an author since that time has done likewise, and has thus helped to blur a clear and very accurate picture of a clinical entity, such as we have from Bostock's description. The best writers on the subject have given due and proper

consideration to this characteristic, and all that have, speak of it as the one important feature of the disease. W. C. Hollopeter says, "The salient feature of hay fever is its periodicity, or annual recurrence." This is part of its very nature, is the central point of diagnosis, is its chief characteristic, and to its elucidation, Holmes says, "all existing theories tend." The overlooking of this characteristic has caused a great amount of confusion. It has caused many writers to call conditions hay fever, which are not hay fever, and it has brought confusion into the etiology, the pathology and the treatment of this trouble.

I am compelled to draw particular attention to this point, as we cannot arrive at accurate conclusions in regard to any disease, unless we are able to exclude conditions, which may be similar, but which we know are not identical. We can only intelligently study a disease, when we view it as a clinical, a pathological entity, when we can exclude all conditions that are foreign to it. This I believe we can do with hay fever, if we bear in mind its characteristic of periodical recurrence,

*Read before Section on Laryngology of Wayne County Medical Society, Jan. 25th, 1904.

and refuse to recognize as hay fever all conditions that do not show this feature. In my study of hay fever I have done this, and I have gone even further. I have considered that the fall hay fever of this country is a clinical and pathological entity with sharply defined characteristics. I believe it to differ from the spring or summer hay fever, and from Bostock's *Catarrhus Aestivus*, in a sufficient degree to allow us to consider it as a distinct clinical and pathological entity. I believe that we are justified in doing the same with spring hay fever. To study them intelligently we must consider each a disease by itself. That they differ clinically we know, as the patient suffering from fall hay fever does not have the spring hay fever, and the patient subject to the latter does not have the former. Furthermore we are justified in considering them distinct from one another, pathologically, for this same reason. I admit that there is a great resemblance and similarity in the two conditions, and in all probability the solution of the one, will bring with it the solution of the other.

Pollen was first suspected to be the exciting cause of hay fever by Elliotson, of London, in 1831, but not until Blackley published his work on hay fever, in 1873, did the belief in the pollen theory become widespread, and even then there were many who could not attribute to pollen any causative properties. Blackley found by tests that very many pollens, in fact all that he tried, had quite irritating action on himself, and on others who were hay fever sufferers, when applied to the conjunctiva, to the nasal mucous membrane, or to the skin, denuded of its epidermis, while they did not show this action on those who were not subject to hay fever. These tests were made principally, as far

as I can learn, during the hay fever season and therefore are open to grave objections.

Blackley attributed this reaction to the mechanical irritation of the pollen on the parts to which it was applied, and principally to some property of the living protoplasm of the pollen. He also assumed a personal, individual predisposition of the hay fever sufferer to the irritating influence of the pollen, an idiosyncrasy. He found that the amount of pollen in the air was usually quite proportional to the severity of the hay fever attacks. He explained the freedom from hay fever on the ocean and in localities exempt from it, by the absence of pollen. He tried to explain all the symptoms by the local irritation of the pollen on the mucous membranes. This was not always possible, and often conflicted with known facts. There was much about the theory, as he brought it out, that was very fascinating, and yet it was open to the gravest objections. Many workers in this country also upheld and attempted to further the pollen theory, but like Blackley, they never brought convincing proof of the truth of it. The reasons for this are various. The results of their tests were very often conflicting, their theory did not explain all the characteristics of true hay fever. By being used to explain the peculiarities of spurious cases, the theory was easily proven to be fallacious. To-day, probably, the great majority of physicians believe that pollen has some irritating properties on the hay fever patient, but I think that there are but very few who believe that pollen is the sole cause of hay fever.

In the spring of 1903, Prof. Dr. Dunbar, of Hamburg, Germany, published a monograph entitled "The Cause and Specific Cure of Hay Fever." A long series

of very carefully conducted experimental investigations led him to the belief that the spring hay fever of Europe is caused by the pollen of the plants belonging to the family of Gramineæ, or grasses, and that this is the only cause of hay fever, acting of course in connection with the individual predisposition. His work, although given due consideration by most writers, has not been received by all as conclusive proof, as to the etiology of hay fever. There are some features of this disease that his investigations do not satisfactorily explain. Until the pollen theory elucidates hay fever in all its various phases and aspects, it cannot be accepted as proof positive of the etiology and pathology of this disease.

When I began the investigation of the etiology of hay fever, it seemed to me that the pollen theory, even with all its shortcomings, was the most plausible one, of all those advanced, to explain this trouble. I decided to look into the matter more deeply, and by direct proof try to advance the pollen theory, or to overthrow it. It struck me very forcibly that pollen would better explain the periodical recurrence of the trouble, than any other external exciting cause that had been advanced. I came to the conclusion that it would have to be the pollen from an anemophilous plant, as the pollen of the entomophilous plant is not carried by the air, and so could not produce any trouble, unless the patient came into direct contact with the plant. The plant, from which the pollen came, would have to be one which is very common and widespread in its habitat, and would probably prove to be wild growing, one not cultivated, as only such a one would produce pollen at about the same time annually.

While living in the country last summer and fall, I gathered all the various pollens that ripened about the time that the fall hay fever attacks begin. I incidentally noted the time of their production, the amounts produced, how they were carried to the pistillate flowers, and the time when they ceased to be formed. As a result of these observations, I found that the pollen of the Ragweed, *Ambrosia Artemisiaefolia*, also commonly known as Roman Wormwood, Hogweed, and Wild Tansy, is the only one that has all the characteristics of my hypothetical exciting cause of hay fever, and this corresponds with what many before me had suspected.

The first ragweed pollen that I could find was discovered on the 6th of August, and then only traces of it were found. After the 13th of August, it was produced in very large quantities and from the 30th of August on, the amount of it became progressively less, so that none was found in the country after the 10th of September. In Detroit, I found some as late as the 14th of September, but this was the last seen, and then there was only a trace of it. Ragweed is a purely anemophilous plant, is one of our commonest and most ubiquitous weeds, and its habitat, is given by Britton, as covering the country from Nova Scotia to Florida, and from British Columbia and Mexico. It is found in the West Indies and South America. It is not prevalent in Europe, only having been introduced there as a weed. Parenthetically, I might call your attention to the absence of fall hay fever in Europe. When one's attention is once called to the plant, it is surprising how prevalent it is, even in the heart of a large city. I doubt whether there is a spot in the city of Detroit where in a radius of five hundred feet it would be impossible to find samples

of the plant. Ragweed produces pollen in very large quantities during the two weeks from the middle of August to the beginning of September. This pollen is carried freely by the wind, probably to great distances, being exceedingly light. During this time it is present in the air of the city. This was easily demonstrated. I filtered air through cotton, drawing it through by means of a filter pump, and in every sample collected during the hay fever season I found the pollen grains. As the tests that I made last fall do not show accurately the amount of ragweed pollen present in the air during the critical period, being made to prove only its presence and not its amount, I will carry out similar experiments this coming fall with improved methods.

Blackley very conclusively proved this for the pollen of the grasses. As ragweed pollen is formed and scattered in the same manner, we are justified in drawing the conclusion that it must be present in like large quantities during the season of its production.

Ragweed pollen in bulk is a lemon yellow, odorless, tasteless, non-sticky powder. The individual grains are perfectly spherical, 28 microns in diameter on the average, and consist of an inner protoplasmic mass, which shows no structure. A thin membrane, called the intine, envelops the mass of protoplasm. Outside of this there is an outer covering called extine, which is covered with very many small projecting spines, like a chestnut burr. The grains do not contain any starchy matter, and in this are different from the pollen grains of the gramineæ, which all contain very minute rod like bodies, which show very strong starch reactions.

I have isolated from the ragweed pollen a white, amorphous substance, which has a toxic action on the hay fever patient. It is soluble in salt solutions and glycerin, but not in alcohol or ether, can be filtered through a Berkefeld filter and will not dialyze through animal membranes. When heated to a temperature of 80 degrees C., or almost that high, it loses its toxic properties. I have named it ambrosin. The residue left, when the ambrosin has been extracted from the pollen grains, is perfectly inert, having no irritating action whatever on the hay fever patient.

I made no tests on hay fever sufferers during the hay fever season, as the result of such tests would for obvious reasons be unreliable, and not convincing. I reasoned that I would be able to get the irritating effects of the pollen at any time of year, if it were the causative factor of hay fever, acting on a person with the peculiar susceptibility. Preparatory to these tests I made various trials with numerous pollens on immunes, meaning by immunes such as never have hay fever. I placed smaller and larger amounts of solid and of ground pollens into the conjunctival sac of my own eyes and into those of many others, who kindly submitted to these tests. All of the pollens so tried were without irritating effect, except the slight mechanical irritation that they produced, and this passed off in about two minutes after the pollen was removed. This mechanical irritation was only present in a more marked degree when very large quantities of pollen were used. In no case was any irritation produced that could be attributed to a pollen toxin, so called, and this lack of irritating properties was still more marked when solutions of the pollen were used, as these solutions were free

from any solid particles. These solutions are as inert as so much water, when applied to the immune, while when applied to the hay fever patient, the result is strikingly different.

On October the 27th, I made my first test on a fall hay fever patient, and as this was a typical case with a typical result, I will describe it more minutely. The patient, Mr. K., has been a hay fever sufferer for twenty years, his attacks coming on every fall about the 15th of August, and lasting, if he remained in Detroit, the usual length of time. His attacks are so severe that he is compelled to leave his home, which is in this city, and go north, where he is at once relieved and where he remains free from the affection. Should he return before the hay fever season has passed, he has a renewed attack, lasting until the critical period is over. His eyes and nose are quite seriously affected, and he also has very severe attacks of asthma. He has been treated by many physicians and many methods, but his hay fever returns with unfailing regularity. The asthmatic attacks are now much more severe than they were, when he was first affected by the hay fever. The only means of relief that he has found is to go north, or to some other locality where there is no hay fever. Ground ragweed pollen was used, and as small an amount was applied to the conjunctiva of the lower lid as was possible to do, and still be certain that some had been applied. The amount was about as much as a pin point. At once there was very severe smarting and burning, and very soon the eye began to discharge tears freely. Within five minutes the ocular and palpebral conjunctiva and the lid margin were intensely injected. The difference of the two eyes was very strik-

ing and could be seen easily at a distance of fifteen feet. Shortly after this the eye was chemotic, so that the conjunctiva was raised at least one-eighth of an inch above the cornea, slightly interfering with the free closure of the lids. The lower lid swelled to about three times its normal thickness. These swellings and the injection of the conjunctiva increased for some time and then subsided, passing off completely in twenty-four hours. About four hours after the application the patient began to sneeze, and this sneezing came on at intervals for the next four or five hours, lasting until he retired. I must add that the patient was not aware of what I had used on him, or what I expected might be the result of the application.

In another patient, on whom I made a test with ragweed pollen on the 11th of November, a Mr. F., a man who is a very severe sufferer, and in whom the trouble manifests itself principally as asthma, the irritation was even more severe, and the effect of the application, as characterized by him, was a typical attack of hay fever in its beginning. He had a pronounced attack of asthma come on about twelve hours after the application of the pollen to the eye. He also was ignorant of what I had used on him, and what the results might be. These tests were varied by the occasional use of an extract of pollen, and when this was used the effects were marked by the rapidity of their appearance.

I have now made these tests on eleven typical hay fever patients, and in every instance I got the same results, the irritation seemingly being somewhat proportionate to the severity of the attacks of hay fever. I have tried the ragweed pollen and the solutions of toxin made

from it, on fifty-six immunes, and not in a single case have I found any irritation produced by it. To the immune it is absolutely inert.

In gathering data of the effect of the ragweed pollen on immunes, I had an interesting experience. I made applications of a solution of ragweed pollen to the eyes of several students. None of the gentlemen knew what I was using, or for what purpose, and I did not know whether there were hay fever patients among them; in fact, I believed them all to be immunes. One gentleman at once complained of the irritation, while the others did not consider the application more than if I had used distilled water. While I was noting names, date and time, the eye of the one who had complained of the smarting became intensely red, and I said to him that I believed him to be a hay fever sufferer. He answered, "Yes. I have been subject to hay fever for about twelve years." Within two minutes he began to sneeze, some of the solution probably passing through the tear duct into the nasal passage. The eye rapidly became more red and the conjunctiva became chemotic. The lid also swelled to quite an extent. The nasal passage of the side to which the application had been made was almost closed after five minutes, and there was free secretion from it. The eye teared some.

To ascertain whether there is a volatile substance in the pollen, I forced air through a considerable quantity of it and allowed a patient to breathe the air. The result was entirely negative. This was also proven with considerable certainty, by the fact that an ether extract of pollen is entirely inert.

I find that the ragweed pollen, when applied to the nasal mucosa, acts exactly

as it does when applied to the eye. When applied to the mucosa of the mouth, it does not seem to possess any irritating properties, at least not as marked as when applied to the eye or nose. As yet I do not know why this is so, but I assume that the saliva may possibly alter the toxin in some manner. A subcutaneous injection of 8 min. of a ragweed extract 1 part in 1,000,000 pts., produced the following effects on a hay fever patient: The site of the injection at once became irritated; within a few minutes it itched considerably, was quite red and somewhat swollen. The redness soon covered a space the size of half the palm of the hand, and the swelling also increased. After 24 hours the arm was swollen from elbow to wrist, and intensely injected. It was also very painful on motion and to pressure. After 48 hours the swelling and injection had disappeared, though the itching still persisted. Ten hours after the injection there was sneezing, nasal discharge, and a sensation of tickling in the nose. These symptoms lasted about 24 hours and then subsided, the patient describing them as a typical attack of mild hay fever. An injection of 12 min. of a solution 1 pt. to 100 pts., or 15,000 times as much pollen toxin as was given to the hay fever patient, produced in my own case a severe local irritation, redness and swelling, extending from the wrist to the elbow, and lasting about 48 hours, but there were no other symptoms. Pulse, temperature and all other functions remained perfectly normal. By applying the pollen or a solution of the pollen to the unbroken skin, I was unable to get any irritation. Numerous tests were made on the hay fever patients with the pollens of various plants, with goldenrod, oats, hay, corn, and others; hay, oats, and corn

belonging to the gramineæ, the supposed cause of the spring hay fever (Dunbar). There was no reaction obtained with any of these pollens, resembling in any way the reaction produced by that of the ragweed.

With the goldenrod pollen, accused by many (also by Dunbar), as being one of the causes of fall hay fever, I was able to get a very slight effect in two cases of hay fever, but it was so slight that the patients themselves declared that there was no resemblance to the effect of the ragweed pollen. There was no irritation from its use, and the only noticeable effect was a very slight redness of the eye ball, so slight that it was even difficult to be certain of the redness. That the goldenrod cannot, in the natural course of events, be the causative factor of hay fever is proven by the fact that it is an entomophilous plant, the pollen being carried by insects and not by the air.

The deductions that I draw, and the conclusions arrived at, from the results of the foregoing tests and many others not mentioned, are the following:

The pollen theory is correct, but not when it explains hay fever as being due to the mechanical irritation of the various pollens on the mucous membranes of the air passages and eyes. The mechanical irritation of the pollen is no different in the hay fever sufferer than in the immune.

The pollen theory is wrong, when it assumes to explain hay fever by the local chemical action of the pollen toxin on the mucous membrane.

All cases of fall hay fever, that show a marked annual recurrence of the attack, the trouble setting in about the third week in August, and at no other time of the year, are directly due to ragweed pollen and to this only. Goldenrod and the

various other factors, accused by many writers, are not causes of hay fever.

I admit that there may be very rare cases which show all the characteristics of fall hay fever, and which are still not due to a pollen toxemia. These instances are probably always patients suffering from neurasthenia, and are undoubtedly of rare occurrence.

Besides the ragweed pollen, we have in the hay fever patient a systemic, not a localized condition, that allows the so-called toxin to act as such. I am at present not in a position to state with absolute assurance, although various facts elicited by experiments have almost convinced me, as to the nature of this underlying systemic condition. This condition is the underlying pathological factor, and without its presence we can not have hay fever, no matter how much pollen is present. Not only is this condition present during the hay fever season, but it is always present. It is part and parcel of the hay fever sufferer, it is a systemic idiosyncrasy for ragweed pollen, if you wish to call it so.

The ragweed pollen toxin has two actions on the hay fever patient, neither of which can it exert on the immune. The one is its local irritating property on the various tissues with which it is brought into contact, e. g., the mucous membranes, and which irritation it probably exerts by acting on the local nerve supply. This is the action which manifests itself almost at once by the smarting and the redness of the conjunctiva, when the toxin is brought into contact with it. The other is its action on some part of the central nervous system, probably the medulla, irritating centers therein, and thus producing a condition of hyperæsthesia in these centers. The mode of entrance of the toxin is by

the circulation. This latter action is the cause of the most, if not all, of the symptoms of the patient, and without it I hardly believe that we would have a condition called hay fever.

The amount of pollen in the air during the critical period does not seem to be sufficient to produce, by local irritation, all symptoms of hay fever as we find them in many cases, while it is undoubtedly much more than enough to produce the same symptoms, by acting centrally, and by being assisted locally by the innumerable external irritants which can now make their presence known.

This hypersensitive condition of the nerve centers manifests itself by the sneezing, reflexly elicited, by various external irritants, like light, dust of all kinds, heat, cold, etc., and also by the asthma, which also seems to be reflexly induced by various external exciting causes, and which two conditions will come on hours after an application of pollen to a mucous membrane, or when injected subcutaneously.

This state of hyperæsthesia of the nerve centers I would liken in a limited measure to the condition of a patient with tetanus or rabies, where a draught of air or a sudden flash of light is often enough to throw him into convulsions.

Only when the hay fever patient is affected by the pollen toxin is this condition of the nerve centers present, and at no other time, and it passes off in from 24 to 48 hours, the length of time that it lasts depending on the severity of the intoxication.

This hypersensitive condition of the nerve centers explains many facts, which were always considered proofs of the fallacy of the pollen theory. I will only mention the following: Most hay fever patients know of one or more external irri-

tants that will bring on attack of sneezing, etc. Beard considered this as proof that in these cases the pollen was not the cause of the symptoms. When we know that pollen toxin produces a hyperæsthesia of the nerve centers, we can understand why these external irritants act only during the critical period and not at other times. Many hay fever patients have a severe attack of sneezing on awakening after sleeping in a closed room. It must be admitted that these patients were not exposed to pollen to any great extent during the night. It is thus not plausible that the local irritation of pollen could be the cause of this sneezing. The excitable condition of the sneezing center, due to the pollen intoxication of previous days, and the irritating influence of light on opening the eyes in the morning, or any other external irritant, seems to me to account for these attacks of sneezing in the most plausible manner.

The premonitory symptoms, and the general malaise of the hay fever patient during the attacks, can also be explained by this view of the pathology of the trouble.

This explanation of hay fever does away with the necessity of assuming it to be a neurosis, a theory that never seemed to me well proven, or even plausible, and one which is not believed in by many good writers.

The theory of local areas of hyperæsthesia in the nose, also does not seem plausible, as it fails to explain many facts in connection with the trouble.

It seems to me that this explanation, this view of the pathology of hay fever, allows us to understand and to explain all the peculiar manifestations of the disease, and it seems to make those facts substantiate the pollen theory, that before this were considered proof against it.

Looking at the pathology of hay fever in this light, we understand why no line of treatment up to the present has been satisfactory. In my estimation any treatment, to be successful, must change the systemic condition of the patient. Local treatment certainly cannot do this, even though it may be of very great use in relieving, in a measure, some of the manifestations of the disease when they are aggravated by local pathological conditions, as of the nasal passages.

The spring hay fever, as Prof. Dunbar claims, is due to the pollens of the *gramineæ*, the toxin of which is entirely different in its nature from that of ragweed, although its action on the spring hay fever sufferer may be identical to the action of the ragweed pollen toxin, on the fall hay fever sufferer. Where the former toxin is not changed by boiling, according to Prof. Dunbar, the latter is inactivated by a temperature below 80 degrees C. The two conditions are thus entirely different in their exciting cause, but I believe that their pathology is very similar.

Prof. Dunbar has produced an antitoxic serum by injecting the pollen toxin, isolated from rye pollen, into animals, and he advocates the local application of this antitoxin to the mucosa of the nose and eyes as a cure for hay fever. I cannot believe that the occasional application, locally, of such an antitoxin can act curative, when I take into consideration the systemic susceptibility of the patient. This opinion is substantiated by the reports that we have of its trial during the spring hay fever season of 1903.

If we believe that ragweed pollen is the exciting cause of fall hay fever, and I am convinced of this fact, we have at our command a means of making a positive diagnosis of the trouble, at any time of the

year, even without the history of the case. That this would rarely be of great advantage, I admit, and yet I can imagine cases in which it would be of use. The reaction produced by a proper amount of pollen toxin, although very marked, is not troublesome to the patient and is devoid of all danger. I would advocate, when using it, to make the application to the conjunctiva of the lower lid, and with an extremely minute amount of the ground pollen, or better still, with a standard solution of the pollen toxin, of no greater strength than one in one thousand. The reaction thus elicited will pass off in about 24 hours and will not annoy the patient to any great extent.

In concluding my paper, I wish to say that this is only to be considered a preliminary report of some of the work that I have done on hay fever. I hope that you will not assume that I lay claim to originality for all the facts reported to you this evening. Some of my work, although done independent of the knowledge of what others had done before me, is only to be considered as confirmatory of such investigations. I certainly am anxious to give due credit to others, who have worked in this field and who have accomplished so much. I feel that it would be an injustice to you, gentlemen, if I should take up your time with reports of tests and of further work done on this subject, before it has reached some stage of completeness, and therefore I will postpone reporting more, until a future time, when I hope to be able to place before you some things that will be of more tangible benefit to the profession and to the hay fever sufferers.

It affords me great pleasure to express my sincere thanks to the gentlemen who have so kindly submitted to the many and often very unpleasant experiments,

OUR RELATION IN ACCIDENT CASES.*

T. F. HEAVENRICH,

Port Huron.

A few months ago I was called to see a man, a railroad employe, who had been hurt while in the discharge of his duties. I found, on examination, that his injuries were trivial, and consisted of bruises and slight cuts. I assured him of the fact, that he would be all right in a few days, and able to go back to work. This statement seemed to disappoint him, and he said his intention was to lay up for a while and later claim damages against the road. With this purpose in view, he wanted me to continue calling on him and to exaggerate his injuries in speaking of them. He wanted to make a deal with me. I was to testify in his behalf, and thus aid in obtaining a verdict, for which I was to get a certain percentage of what he obtained.

An attorney had put him up to this idea, and was willing to carry the suit through on a commission basis. I refused to be a party to the transaction, and assured the patient that I would expose the scheme if tried.

A few days later he went back to work, and in his next pay-check no wages were deducted for loss of time. As for my bill, the company paid it.

About six weeks after this accident I was sent by one of the transportation companies to an inland town to examine a woman, who had filed notice of a suit for damages against the company, for injuries received on its line.

No report of the accident had been turned in by the employe, and no one of them in charge at the time when the acci-

dent was said to have occurred, knew anything about it.

An examination of the patient, and later of the physician in charge, convinced me that the case was a fake from start to finish, and further inquiry strengthened my opinion. The trial for damages will come up in the near future, and I sincerely hope that the evidence will expose the plot, and that the physician will get his just deserts. This, however, may not happen, as the tendency of our juries is to mulct the corporations for the benefit of the injured, and a good fluent lawyer can usually make a mountain out of a mole-hill, and thus arouse the sympathies of the twelve good men and true.

These two incidents, gentlemen, bring out very forcibly the fact that there are two sides to every question; and in the question of accident and responsibility, we should be most guarded and should carefully consider all facts as bearing on a case in hand. Take for example, the railroad companies and their cases.

With the vast evolution of railway systems, both steam and electric, transporting great multitudes of people, and millions of tons of freight, with its army of employes, accidents are constantly occurring, as a natural sequence to this network of rapid transit. With a knowledge of this fact, what does the railroad do? From a humane standpoint, some may say not, but true it is nevertheless, they have a well-organized relief system, composed of local surgeons, under the supervision of a chief surgeon, whose duty is to promulgate rules, and regulations for discipline, and the highest efficiency of the service in

*Read before the North Eastern District Medical Society.

rendering aid to the injured. Local physicians are selected at towns along the route as amongst the best representatives of their profession at each place. Thus a passenger or employe may obtain prompt and efficient relief at any place of accident on that road.

Those who say that the railroads do not organize such forces for humanity's sake will, no doubt, come forward with a statement that they do it to protect their own interests. And in this they will speak the truth and strengthen the humanity argument for the road.

It is natural for a road to protect its financial interests, just as it is for any one of us to do likewise; but in this case, by protecting such interest they do not detract from the humane point, but add to it, by giving the services of the best men obtainable, and they expect from this feature to get the best and quickest recoveries from injuries.

Let me illustrate: While in service at one of the Detroit Hospitals I had a patient in my section who had been struck by an engine. The railroad surgeon came to see the case, a compound fracture of the tibia, and advised wiring the bones together. The patient's family physician thought otherwise, and treated the case accordingly. The patient lay in bed for nearly two months, and at the end of that period was as badly off as ever. At this stage another surgeon was called in, and his advice was the same as that the railroad surgeon had given. The operation was performed and a speedy recovery followed. The railroad was responsible for the accident, and adjusted the patient's claim; in this case the man was allowed loss of time from work. Should the company be held responsible for the loss of

time, when the true fact is, that the family physician had made a blunder in his work, and was responsible for the protracted disability?

Railroad surgery is peculiar surgery, and in it opinions differ greatly. In view of such facts as above related, is it not humane, as well as economical for the company to provide its own staff of surgeons? Is not a man accustomed to such emergency work better equipped than a man in ordinary practice, who may get such a case once in a lifetime? And if he be better equipped, he is better able to relieve suffering, more efficiently, than the doctor in ordinary practice.

Usually, in accident cases, happening under corporation rule, the company pays the physician's bill, and the injured feel grateful. Unfortunately, this feeling is short lived and soon becomes enveloped in a mantle of greed. A suit for damages follows, and I regret to say that often the physician in charge of the case, takes the witness stand and exaggerates his report in favor of his patient. Is this honorable? Should a physician be biased in his testimony? His work stops when his patient is well, and he cannot excuse himself for giving false testimony, and this is what he does when he pads any report of the case in dispute.

Outside features should be considered in all personal injury cases and with that object in view, I wish for a moment to speak of the diseases of the injured. It is a topic, however, too lengthy to go into minutely, so I will just abstract a few ideas.

I do not wish to take up the pathology of the many acute and chronic diseases that complicate injuries, but will mention a few that suggest further thought along this line.

Of all the diseases complicating injuries and defeating us in our life saving task, tuberculosis stands at the head. It is of chief interest, as there is often dissemination of tubercular material from injury or operation. There is often a tubercular foci not suspected until some appreciable lesion occurs to warrant us in assuming the pre-existence of the disease. Such lesions may occur in cases where the most careful examination had failed to detect the disease beforehand.

Syphilis is of interest also, as a disease with obscure lesions. With the virus in the system, and such a cause as trauma to favor its persistence, how can we expect good results?

Take diseases of the heart; you may find one with enough energy to perform its functions under ordinary circumstances. It has no reserve power to withstand shock, loss of blood, or sepsis, and its intolerance for anesthetics makes surgery a difficult feat.

Disease of the blood and blood vessels should be thought of, as should disorders of metabolism.

Alcoholism should be an important feature in considering cases. With a miserable wreck of a human being to work upon, how can we expect to get even fair results? The vitality is lowered and the wounds are slow to heal and pathogenic organisms are offered the best chance for invasion. The injured soft parts disintegrate, while broken bones receive no osteoblasts for repair.

Many other diseases should be mentioned, but lack of time prevents me from doing so, and I leave the subject for you to ponder on.

Life Insurance Companies carefully calculate the expectancy of applicants who present slight evidence of being below the standard, and consider such cases as bad risks. They figure the danger, not from

disease alone, but that the resisting powers in acute illness or injury, are so much impaired, that such an individual would succumb to an injury or an illness, when another would recover. Fifteen per cent. of all applicants are rejected by Insurance Companies on account of such evidence.

There are seeds sown in early life, by habit or accident, that wait for a favorable condition to germinate and grow.

Why should not we consider any case that comes into our care, from this standpoint? Are we any more bound, in honor, to the patient than to the company?

Remember that corporations use every endeavor to prevent accidents and usually do all in their power to ameliorate the sufferings of the injured.

Remember the past history and the condition of the patient, and remember that we are not always careful in avoiding injury.

With us the question of law suit often rests, and we should always carefully weigh the evidence and give nothing but honest advice. Do not, as many have done, make an attempt to get damages because it will mean a positive payment of your bill, if the claim is held valid in court. Depend on your pay, in this case, as you would in any other case, on the patient himself. To him your services were given, and to him look for your pay.

If at heart you believe a man responsible for his own condition, you are not justified in aiding him to a verdict. If called to the witness stand, you should give your honest convictions in evidence, nothing else.

And, to go further, any physician who takes part in any scheme to mulct a corporation in any fake case, for what they may swindle the corporation out of, is just as dangerous to us, respectable practitioners, as is a thief in any respectable community, and should be shunned and treated as such by us.

CONGENITAL ELEPHANTIASIS.

(Report of a Case.)

H. R. VARNEY.

Detroit.

Sporadic cases of chronic hypertrophy of the skin and sub-cutaneous tissue, classified as Elephantiasis, are rarely seen in the United States.

For hundreds of years, this term has been applied to any extensive hypertrophied condition of the skin-connective tissues, and in many cases it has no doubt been misapplied.

The pathological processes differ so greatly in the sporadic cases from those of the endemic, that a consideration of the congenital type of this disease, with the report of a case, will be the subject of this article.

This type differs not only in its origin but in its general symptoms. The hereditary tendency of this disease has been shown by recorded cases. Nonne reports four cases in one family, the disease appearing in the same locality on the body of each member of the family. Moncorvo also reports congenital cases, one of which, the grandmother, had repeated attacks of lymphangitis, yet the mother was entirely free from the disease or any of the predisposing diseases, though she gave birth to a child afflicted with unilateral elephantiasis, supposed to have been caused by a fall during pregnancy. Barwell, Coley, Wende, Jopson, and others all report congenital cases.

Virchow describes a congenital form of this disease which he attributed to over-nutrition. It was characterized by increased vascular supply to the affected area, which he termed "Elephantiasis

Telangiectodes," or Naevoid Elephantiasis.

On Oct., 1903, the patient whose case I am about to report, was referred to me: Miss E. S., now 18 years of age; American born, always lived at home; general health good. There is no history of any such condition existing in either maternal or paternal branch of family. During pregnancy, the mother had fits of an epileptic nature. Other children are normal and healthy; mother's health is good; labor during birth of this child was normal.

At birth, both mother and nurse noticed a slight enlargement of the end of the middle finger, on left hand, with no unusual discoloration. Little attention was given this abnormal condition during childhood, though there was a very gradual increase of the enlargement, extending up the fin-



ger. The condition, as first seen by me, is shown in the photograph. On first inspection one would conclude that a dis-

eased condition of the bone existed, as the finger with the groove along its center had the appearance of a supernumerary finger.

However, the accompanying Radiograph shows there was no change in the



bone structure, thus excluding Acromegalia. There was marked hyperplasia of the skin and connective tissue, which could not be pitted with pressure. The enlargement extended above the wrist with numbers of Keloid-like tumors upon the back of the hand and wrist.

At this time, the middle finger of the affected hand was three-quarters of an inch larger in circumference than the corresponding finger of the other hand, and the wrist of the diseased hand was one inch larger than the other. The diseased area involved the fore-finger, the inner half of the ring finger, and the back of the hand and wrist. The thumb and little finger were not affected. The patient complained of loss of power of the hand, and a feeling of great weight, but never any

pain. There was almost entire loss of the sensation of touch in the middle finger, but only partial loss in the ring and fore-finger.

Examinations of the blood were made at midday and midnight. There were no traces of *filaria sanguinis*, and the urine was normal.

The etiology of sporadic Elephantiasis is varied. Cases develop this type of diseases from many causes. Any pressure upon the veins and lymphatics is considered an etiological factor.

This same etiology holds good in the congenital cases. Some injury to the mother, during pregnancy, is transmitted to the unborn child, causing an inflammation, or producing in some localized area hypertrophy and overgrowth of the subcutaneous tissue.

In the congenital cases reported by Moncorvo, he advances the explanation that from injury to the mother, streptococci found their way into the foetal circulation, through the placenta, and thereby produced tissue changes.

Wende states in reporting his case of congenital elephantiasis, of which careful microscopic examinations were made, that no definite conclusion could be determined upon. The etiology of this disease, according to some authorities, is due to many distinct causes, while other investigators agree that it is the direct result of hereditary syphilis.

The cause of congenital elephantiasis is truly difficult to get at. In adult life, it is the result of recurrent inflammatory conditions, or obstruction of the lymphatics, and this must be true in the congenital type.

The treatment of these progressive, deforming congenital cases is of great importance. It consists of that which will

best counteract the cause and its complications.

When the cause of the obstructive condition can be discovered, as in growths of different nature, both surgical and internal treatment can be given, with marked results that are permanent.

In the case I have reported, conservative treatment was indicated; for if the progress of the disease could not be checked, total loss of the use of the arm would follow, with ultimate amputation.

The most startling, successful treatment of this disease is reported by Thomasz. He treated 29 cases with calcium sulphide given internally, in increasing doses, and iodoform ointment applied locally, the diseased parts being tightly bandaged, and patient kept at rest. All recovered, and only one case recurred. Stelwagon states that he has been unable to find a report of similar treatment given, either favorable or unfavorable.

The reports of successful treatment are mainly of cases that are seen early, when the cause is easily removed. This is not so in cases of the congenital type, the history of which is obscure, or in those which have existed for many years.

From results obtained in similar diseases, as Keloid, Verruca, and Scleroderma, I was led to believe that the Ray treatment might be beneficial in the case which I am reporting. We know that long continued, moderate exposures of the normal skin will cause atrophy of the hair bulb, and wrinkling of the skin, more marked in all hypertrophic diseases involving the skin and connective tissue.

Under Ray treatment, sensation returned in the affected area, and Keloids disappeared in the hypertrophic tissue. Careful measurements were made, weekly, and

showed marked diminution in enlarged condition. This treatment is the only one to which the disease has responded in an encouraging manner. All literature on the subject agrees that this congenital form is the most rebellious of all types of the disease.

Mascot reports and exhibited a series of photographs of a patient with Elephantiasis, that had completely recovered under X-Ray treatments.

CONCLUSIONS.

1. The congenital type of the disease is rare.
2. It differs in origin and general symptoms, with no recurrent inflammatory reaction. Yet it is progressive.
3. A history of injury in utero in this case might have been an etiological factor.
4. The causes are as a rule, obscure, rendering prognosis as to treatment, guarded.
5. The Ray treatment should be tried.

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TUBERCULOSIS.*

W. C. HUNTINGTON,

Howell.

It is now agreed by those who have given the most attention to the subject, that tuberculosis occurs and ends in recovery far more frequently than was formerly supposed. Osler says, in a recent lecture before the Phipps Institute at Philadelphia, "The germ of tuberculosis is ubiquitous; few reach maturity without infection; none reach old age without a focus somewhere." Farther on he says, "The only series which we have dealing with this question in a satisfactory way is in the study of 500 post-mortems in Prof. Ribbert's Institute in Zurich, by Naegeli. It is to be borne in mind that in his work special examination was made of every organ of the body, sections were made of all parts with the greatest care, and the individual lymph glands particularly inspected. Tuberculous lesions were found in 97 per cent. of the bodies of adults. He gives a very interesting curve showing the incidence of different ages. Up to the fifteenth year there was only 50 per cent., then there was a sudden rise in the eighteenth year to 96 per cent., with a slow rise, so that by the fortieth year a tuberculous focus was found in everybody. This careful research demonstrates the extraordinary susceptibility in man to tuberculous infection, and an equally extraordinary degree of resistance. In the tuberculin experiments of Franz on healthy Austrian soldiers a reaction was shown in over 60 per cent., so that we must accept the conclusion that tuberculous infection, latent tuberculosis, is more

extensive than the manifest disease. He says that von Behring refers all tuberculosis to milk, either from tuberculous cows or containing germs received from the air; that a focus is formed generally in childhood, and remains latent until under favorable circumstances it develops into active tuberculosis. Osler does not fully endorse these views, but thinks that the germs are usually received with the inspired air, and where they gain a foothold enter at once upon their work, which is much or little, according to the soil in which they find lodgement.

In view of these differences we may perhaps be forgiven for asking: since a focus frequently forms in childhood and remains innocuous during all the vicissitudes of a long life, and since all are affected by it, at least once, why is it not more frequently repeated in either case, and may it not be that recovery, as in the case of most very contagious diseases, confers a large measure of immunity? This would certainly be a more comforting view than that of latency. Furthermore, since it is proven that practically all child-bearing women are tuberculous, what need is there to make a scapegoat of the dairy cow? If, as Koch affirms, human and bovine tuberculosis are not the same, then the cow is not at fault; but if as others affirm, they are identical, then the same conditions would occur in each. How many of the cows that respond to the test have anything but latent tuberculosis? Practically none, except those that furnish manifest symptoms of the disease. If the milk of cows, with their small per cent. of reaction is dangerous, how much more

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dangerous is human milk, and to what are we coming? If a tuberculous mother will carry a fetus for nine months, furnishing from her own system everything that enters into it, and with their circulations scarcely separated, without infecting it, is it reasonable to suppose that she will afterwards do so through the mammary gland and digestive tract? Too many mothers with advanced tuberculosis have nursed their offspring without infecting them, to indicate that nature has made the mammary gland an instrument for conveying disease. Is not the germ-laden air a medium sufficient to convey the bacillus to the exact spot that it is looking for?

Experience and reason both teach that tuberculosis cannot be successfully attacked by systemic medication. The tubercle is non-vascular, and nature's favorite method of cure is to surround it with inflammatory material, forming an inclosing wall which cuts off all supplies, and contracting, forces out the more fluid portion and reduces its volume, so that all osmosis is in an outward direction. The complicating disorders may frequently be helped by medication, but the prolonged administration of medicine is as likely to do harm, and the complications as well as the original disease are usually best treated by rest, fresh air (cold preferred), sunlight, feeding and properly regulated exercise. These are best and most successfully applied in a sanatorium.

It is difficult to separate one's self from your environment, and hence environment counts for much in tuberculosis. When we consider how worry and apprehension destroy appetite and disturb digestion, we see the difficulty of inspiring with the necessary hope and courage and at the same time convincing the patient that his condition is so serious as to require him to do

such radical things. He will try it for a while and then either get discouraged or more likely consider himself well enough so that it is no longer necessary. Could I order my sick son to sleep out in a snow storm, or with the thermometer at 20° below zero? And if I did, would he not either consider it cruel or be filled with apprehension at having a disease that called for such radical measures? And yet, at the sanatorium he enters into the spirit of his surroundings and does it from choice. We read of isolated individuals doing this and being greatly benefited by it, but it is those who have reached desperation after loss of the most valuable time and opportunity by the failure of other measures. It is wholly impracticable to send an inexperienced consumptive away from home except to a sanatorium. The great west has its fill of consumptives and none are wanted unless at such institutions. If received elsewhere, they are packed in with others of their kind in the most unsanitary manner. A recent writer in relating his own experience said that he could not have been worse treated had he been a leper. The situation at Liberty, New York, will serve as an illustration. The town has acquired a reputation as a health resort. There are two sanatoria in the town, an older and larger, the Loomis, two and one-half miles out, and a Jewish one a little farther on. The town is swarming with consumptives. A consumptive physician whom I met at the Loomis Sanatorium told me that he came to Liberty for the local advantages and stopped at the best hotel, feeling that he was able to care for himself, but saw so many consumptives violating every sanitary law that he felt his only safe place was in the sanatorium. A former resident here, now living near Liberty, whom I visited when

there, said that nearly every occupied house in Liberty had boarders, that the average number for good-sized residences was about twenty-five; that these were packed in in almost any way, and that the uniform rate was seven dollars a week each.

Is the sanatorium safe? Yes, absolutely so, because everything is absolutely under regulation. No one is allowed to expectorate anywhere except into a sputum cup which each must have and deliver daily for the disposal of its contents. A cup with an exchangeable paper lining is used in the rooms, and an aluminum pocket flask for outside. Dr. Trudeau, the founder of the oldest sanatorium in America, at Saranac Lake, New York, says that no employe of that institution was ever known to acquire tuberculosis there, and that the dust taken from all the buildings has failed except in one instance to infect guinea pigs.

The Loomis Sanatorium consists of a large group of buildings located on the southwest shoulder of a small mountain of the Catskill group, two and one-half miles from Liberty, Sullivan County, New York. It is shielded from the northeast winds by the mountain top and receives its southwest winds from the mountains of Pennsylvania. Its average elevation is 2200 feet. The principal buildings are the administration building, which is a first-class hotel, containing the dining rooms, the physicians' and other administrative offices and accommodations for employes and transient guests; a chapel; the superintending physician's residence; a casino, containing a piano, an organ, a billiard table, a pool table, and opportunity for nearly all indoor games and amusements; a highly artistic library building containing most of the leading periodicals and

over 3000 volumes of well-selected books; numerous cottages for the patients, each having a veranda on the south side where they can sit or recline in the fresh air and sunshine, read or play games, or sleep out at night; a reception room; a bath room; and a bedroom for each occupant, heated by hot water and lighted by electricity; the Annex, somewhat apart, for the care of the five-dollars-a-week patients; and last, but best of all, the infirmary, for here the most important work is done. It is here that the new-comers and worst cases are treated until well enough to go to their cottages. It has a veranda along the south side and other necessary conveniences. The room in which the patient is put to bed for absolute rest, fresh air, as cold as may be, and careful watching and feeding, is about ten feet square, with a closet partitioned out of one corner. The bed is in the opposite corner, and a door between admits from the corridor. At the foot of the bed is a radiator, and opposite, in the space between the closet and south wall, a dresser. Between these are double sash doors, open upon the veranda. These doors are kept wide open, regardless of the weather, except white eating, bathing, etc., and on sunny days the bed, which is on small wheels, is rolled out on the veranda. Here, especially when cold enough, the temperature is reduced and the appetite promoted, and these, with the rest, increase the weight and vitality until the patient has a good start on the road to recovery where that is possible.

As the infirmary patients and the worst cases in the cottages do not go to the dining rooms, and as increase of flesh, blood and color results from treatment, a healthier and happier-looking group can scarcely be found than in the Loomis dining rooms.

How different the picture from what is popularly imagined of such places!

The old nutrients, cod-liver oil, malt and whiskey, almost pure carbohydrates, have been eagerly laid aside, and now some seem inclined to the other extreme and feed very largely with meat, milk and eggs, which contain a large excess of protein. It would seem that this if carried too far, might throw too great a burden upon the kidneys, if, indeed, it did not also impair digestion. Others advocate the balanced ration. The plan at the Loomis seems to be to provide a liberal variety of well-prepared, nutritious food, and allow the patient to make his own selections. This is probably the best plan, for in the scientific feeding of cattle, especially dairy cows, where the results can be determined with much accuracy, it is found that the best results are produced from the balanced ration; but it is also found that, if given sufficient liberty of choice, the cow will select the balanced ration as accurately as a chemist could, and she will eat more, digest it better, and yield better results if her appetite is fully consulted.

What is hunger but the voice of the system proclaiming its needs? And has nature filled that voice with lies? Has not nature made all unwholesome, organic things obnoxious to the senses? Poisonous mushrooms would seem an exception, but they have an acrid taste and unpleasant odor. It is by frying in butter with salt and pepper that these are smothered and the mischief done. Tyrotoxicon occurs only under equally artificial conditions.

While the sanatorium treatment of tuberculosis is much the best thus far devised, it is but the first step in the right direction. Its limitations are too great, and its agencies too little under control. An

expensive and fatiguing journey must often be taken to reach a suitable place for treatment, sometimes only to find the conditions prove unfavorable. The altitude that is so beneficial to-day may promote a serious hemorrhage to-morrow with no possibility of change until the patient can rally sufficiently to abandon the place and, perhaps, with it, hope. The cold which is so beneficial, cannot be had at all seasons except at altitudes too great for safety for diseased lungs. The sunlight, which is so helpful, is too inconstant, and the best ventilation is too dependent upon the fickle wind. A germ-free air is needed, for while the bacillus tuberculosis is the pioneer and originator of the disease process, the saprophitic and pyogenic germs are the principal offenders. All of these difficulties will eventually be overcome, however, and sometime tuberculosis will be much more successfully treated in any locality than in the most favored places now.

Let us build an air castle and after it is completed we may consider whether the idea might ever materialize in an actual structure for the treatment of tuberculosis with pure air, or must, like other air castles, remain the fleeting fancy of a pleasing day dream.

We will build an infirmary much like the one above described, but the ceiling will be only high enough to clear a tall person's head. The bed will be as high as practicable so as to bring the patient up toward the ceiling. There will be no outside doors or windows, and the door into the corridor will be as tight as possible. We will make an opening in the ceiling, over the patient's head, connecting with a blower, somewhat like those in factories which convey the sawdust, shavings and chips from the machines to a central place

of deposit. With this we hope to catch the breath as it rises, lighter than the air because warmer, and convey it away from the room. Beneath the bed we will have a register for receiving fresh air. If, before arriving at the register, the air were first passed through finely broken quicklime, it would be largely freed from carbonic acid and moisture. If then passed through cotton wool it would be filtered of dust and germs. If then passed through a conduit surrounded by ice and salt, it could be reduced to the freezing point, and when taken in at the register it would be cold, dry, germ-free, and with a high per cent. of oxygen. The resistance resulting from these processes while the blower was driving the air from the room would create a measure of rarefaction which could be under control. Since radiotherapy seems to possess the virtues of sunlight, with perhaps some added powers, it may become a valuable aid.

The time in the infirmary could probably be profitably prolonged, for Dr. King, physician-in-chief of the Loomis Sanatorium, told me that his worst handicap was the difficulty in keeping patients in the infirmary long enough. They wish to save the extra dollar a day, besides which there is the feeling that going out of the infirmary is proof of improvement.

Thymic Tracheostenosis.

Conclusions:

1.—In all cases of laryngeal stridor, it should be determined whether or not the thymus is enlarged.

2.—On account of surgical shock being badly borne by infants and especially those in this condition, if the symptoms are not urgent, postural treatment should be tried, and if in any position of the head or neck, the relief is afforded, that position should be maintained by suitable apparatus until nature has effected a cure by enlargement of the thorax, strengthening the tracheal rings and diminution in size of the gland.

3.—Intubation, tracheotomy and artificial respiration do no good.

4.—The surgical procedure of opening the

But these things are expensive? Yes, and so are funerals, and so are orphans, and time, indeed, is money and even many times more than money in the treatment of tuberculosis. The poor cannot afford it? No, the poor cannot afford consumption. It lasts so long that even the half charity five dollars per week at Saranac Lake and the Loomis Annex is beyond the reach of the great mass of consumptives. Too many of them could not raise money enough to buy the ticket to take them there if it cost them nothing afterward.

Then must the poor passively die because they cannot pay the price? Must they linger, perhaps for years, wasting in worry and want, dependent upon those who can ill afford to provide for them, or on public charity, helping to fill the air with germs and endangering the lives of others?

The state of Michigan, with a climate especially conducive to tuberculosis, owes it to humanity and the common good, to construct either within its boundaries or at some suitable place outside, a sanatorium for the treatment of tuberculosis, with the same financial provision as for the insane, for both affect the common good, and each is too great a burden for the individual to bear.

mediastinum, bringing forward the gland and stitching it to the tissue over the sternum, should be performed immediately if there is danger of asphyxia.—(*Medical Record*, April 2, 1904. W. W. CARTER).

The Value of Operation in injuries to the Spinal Cord.

1.—It removes depressed fragments of bone apparently lying against the cord.

2.—It removes blood-clots.

3.—Allows the escape of exudate and makes room for inflammatory thickening.

4. Relieves pressure if extensive hemorrhage is present.

5.—Gives greater space where there is excessive traumatic spinal oedema.—(*Annals of Surgery*, April, 1904. S. J. MIXTER and. H. M. CHASE).

SMALLPOX AND VACCINATION.*

C. H. BAKER,
Bay City.

At present the world is being scourged by one of the wildest spread and at the same time mildest epidemics of smallpox of modern times.

Because of the long immunity from severe epidemics the public seems to have forgotten the horrors of former ones and to be more than willing to listen to the misguided fanatics who are trying to discredit the only efficient preventive, namely, vaccination.

Smallpox is an acute infectious disease of man which is communicable to lower animals. It occurs in cattle, horses, sheep, swine, goats and monkeys and is capable of being transmitted from one of these animals to another; from them to man and vice versa.

This disease was described in very early times and owing to the susceptibility of all races, sexes and ages, in all climates and conditions of living, is the most loathsome and fatal known.

It is found in palace and hovel alike; it destroyed Louis XV of France; the emperor of Mexico, and it maimed and disfigured for life William III of England, and killed his wife and several members of his household.

Before vaccination was discovered half a million persons died yearly, in Europe, from this cause alone; one-tenth of all deaths in France were due to it, and La Condamine wrote that: "Among those who outlive it, many either totally or partially lose their sight or hearing, many are left consumptive, weakly, sickly or

maimed; many are disfigured for life by horrid scars and become shocking objects to those who approach them. Immense numbers lose their eyesight by it."

Macauley in speaking of smallpox in England, says: "The havoc of the plague has been far more rapid, but the plague visited our shores only once or twice within living memory, but the smallpox was always present, filling the church yards with corpses, leaving on those, whose lives it spared, the hideous traces of its power, turning the babe into a changeling at which its mother shuddered and making the eyes and cheeks of the betrothed maiden objects of horror to her lover."

In the sixteenth century smallpox destroyed three and a half millions of the inhabitants of Mexico within a very few years, leaving in some places scarce enough people to bury the dead.

Iceland was invaded in 1707, and eighteen thousand, out of a total population of fifty thousand, perished that year.

Greenland in 1734 lost a third of her population; like mortalities were caused in Quito, Brazil, Ceylon and Siberia; while whole tribes of the natives have been annihilated in America.

In the century before the discovery of vaccination, smallpox killed in Europe more than fifty millions of the population.

Among the unvaccinated smallpox is most frequent in children so that it was classed with measles, scarlet fever, etc., as one of the children's diseases and in some countries received names accordingly, as children's pox and pox of the small.

*Read before Bay County Medical Society, March 21, 1904.

It was eminently fatal in childhood, only ten per cent. surviving below one year of age; twenty-five per cent. under five years and fifty per cent. below ten years.

Such was the state of affairs up to 1768 when Edward Jenner first observed that milkmaids who milked cows having cow pox contracted a similar disease on their hands which subsequently protected them from smallpox.

For thirty years he studied and experimented and in 1796 made the first vaccination of a human being, publishing his researches two years later and establishing the first vaccination station in 1799.

Anti-vaccinationists were more numerous then than now, and a storm of ridicule assailed the practice.

Pictures were made representing those vaccinated as having miniature cattle, growing out on the site of vaccination in different parts of their bodies, and horns and tails growing.

The practice soon spread to France, Germany and the United States and became quite general, although it has been estimated that not above fifteen per cent. of the people in this country have received vaccination.

During the thirty years next before the introduction of vaccination, among twenty-five countries and provinces which had reliable statistics, the death rate from smallpox averaged two thousand eight hundred and eighty-two in the million while afterwards it dropped at once to two hundred fifty-nine per million, making the mortality less than one-tenth what it had been.

In Sweden, the year before vaccination was introduced, there were five thousand one hundred deaths in the million, and afterwards it declined until in twenty-five

years the rate was only twenty-five persons in a million.

In Berlin during the twenty-four years before vaccination the death rate from smallpox was three thousand and four hundred twenty-two per million and the next forty years it was only one hundred seventy-six.

If, as the anti-vaccinationists claim, this is a disease caused by filth alone, it is inconceivable that vaccination should have so suddenly changed the habits of whole nations from the dirtiest to the cleanest people on earth and it is left to the "antis" to prove their case.

No doubt the general improvement in hygiene has had some influence in diminishing smallpox, but if this had been the sole cause of the sudden drop there should have been a corresponding drop in the rates of mortality of similar disease as measles, scarlet fever and diphtheria.

Careful statistics show no corresponding drop at that time and only recently have we had a brilliant example of a similar sort in the case of diphtheria whose mortality took a like drop after the introduction of antitoxine.

As showing the influence of compulsory vaccination: in the twenty-six years after it was adopted in Massachusetts there were only thirty-seven deaths from smallpox in Boston and most of these at the immigrant station, while in the twelve years following repeal of the law there were five hundred and thirty-three.

In the Prussian army where vaccination is rigidly enforced there has not been a death from smallpox since 1874.

At first it was thought that vaccination would protect from smallpox throughout life but this was soon found not to be the case.

The completeness of the protection varies according to the perfection of the

vaccination and the normal susceptibility of the patient, some persons being very liable to contract the disease on slight exposure while others escape after much closer contact. Thus one case has been reported of a woman who had smallpox three times and who had been vaccinated successfully three times; yet, on the other hand, unvaccinated soldiers have had men break out with the eruption of smallpox while sleeping under the same blankets without contracting the disease.

One case of extreme resistance to vaccination is reported in which the effort failed twelve times and was successful the thirteenth.

Possibly such a person would be equally resistant to smallpox, but such cases are so rare no one would refuse vaccination on the chance of being one of them.

For most persons the rule holds good, first: that one complete vaccination is absolute protection against smallpox for not less than five years.

Second: complete vaccination causes the attack to be mild no matter how long after vaccination smallpox may be contracted.

Third: one perfect vaccination is absolute security against death by smallpox.

Experience shows that if vaccination is done in infancy; again about the twelfth year and again on attaining adult life there is practically no risk of contracting the disease. The employees of the health department of Chicago are vaccinated and revaccinated until the susceptibility to vaccine is exhausted and they then handle smallpox patients with impunity; not a single one of them having contracted the disease in the last ten years. The same thing is done with the medical students who study the cases in the detention hospital. Over six hundred of them have

attended in ten years and there has not been a case among them. The thirty-two hundred policemen of the city are all immunized in the same way with the same results.

Vaccination on entering school and again seven years later has been given 265,000 school children in that city with the result that only seven cases of the disease have occurred among them and all the seven were in school with false certificates of vaccination. One child was in school two weeks broken out with smallpox, without another one of the children taking it, and he was found to have a false certificate also.

The most convincing test of the efficiency of vaccination ever made was that in the town of Milton, Mass., in the year 1809.

Twelve children who had been successfully vaccinated in July were sent in October to the inoculation hospital, where each was inoculated with the virus direct from a case of smallpox. At the end of eighteen days every one was dismissed, not one having had a single symptom of the disease.

No unprejudiced person can study the statistics of smallpox and vaccination without reaching the conclusion that the latter has materially lessened the virulence of the former and reduced the mortality to a tenth its former amount and the question then arises whether we have exchanged one evil for others as bad or worse.

Arm to arm vaccination may have transmitted disease in some instances and because of the possibility has fallen into disuse and the surer and better managed bovine vaccination has taken its place.

Inquiry among the physicians of this city who have had wide experience with

vaccination, asking how many cases they have seen in which some disease followed vaccination which was in any way caused by it, received the answer in all cases "not one."

If proper antiseptic precautions are used in vaccinating, such as would be used in any minor surgical operation, and the patient will obey the simplest rules of cleanliness and properly protect the sore from injury and dirt, there should never be even a hint of blood poisoning and there will rarely be disturbance sufficient to interfere with one's usual occupations.

Other diseases have other causes and cancer and tuberculosis are no more caused by vaccination, as has been charged, than potatoes or mushrooms are produced by radish seed.

There are plenty of establishments producing pure vaccine at present so that with pure vaccine and a clean arm there is no reason why blood poison need ever occur from vaccination.

We are confronted at present by an uncontrolled epidemic of smallpox and it is pertinent to inquire if the best means for stamping it out are being used.

If all patients attacked by smallpox were brought to one place under the care of skilled attendants it would simplify the problem greatly from the present condition in which each house where smallpox occurs becomes a pest house protected

only by a yellow card tacked on the front of the house; the rear left free for the ingress and egress of the inmates and the unfearing public.

Thus each becomes a center of possible contagion which all too readily contributes its quota to swell the number of new cases.

Disinfection would be simplified; quarantine could be enforced; the expense of caring for patients would be divided by ten because it would not be necessary to feed six well persons for one with the disease, and one nurse being able to care for so many more, and the physician likewise, would still farther diminish the expense.

For one-third what it cost this city and county last year land could be bought and pavilion hospitals built and maintained sufficient for all the cases which have occurred and there is no good reason why a tenth part of the number should have been seen. Free vaccination enforced on all school children and on all adults who have been exposed to the cases as they have arisen, together with a campaign of education of the public as to the benefits and absence of danger from vaccination would long ago have wiped out the disease in our midst and we should have been spared the danger and disgrace of over a hundred and fifty cases existing at one time in our city and county.

Dietetic Management of Diabetes.—There are two reasons given by the writer why the complete withdrawal of carbohydrates should not be a routine measure, viz.: 1st, because it is almost impossible to adequately nourish the patients unless the carbohydrate is replaced by food equivalents; and, 2nd, because the complete withdrawal of carbohydrates favors greatly acidosis, a condition which precipitates diabetic coma.

For measuring the nutritive value, as each article of food in process of metabolism either generates a certain quantity of heat or its equivalent in labor, the term calorie, representing the amount of heat required to raise the

temperature of one kilo of water one degree, is used:

1 grain of proteid yields 4.1 calories.

1 grain of carbohydrate yields 4.1 calories.

1 grain of fat yields 9.3 calories.

A normal adult requires from 30 to 35 calories per kilo of body weight a day. In diabetes considerable caloric value is lost by the excretion of the sugar which should be accurately replaced. In the great majority of cases of diabetes, the patient can utilize some, but it is bad practice to give so much as to fatigue the sugar destroying function.—(*Jour. of Am. Med. Assoc.*, March 26, 1904. A. C. CROFTON).

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Editorial

THE BIOLOGIC TEST FOR THE BLOOD.

It has always been a delicate problem to differentiate human from animal blood. Yet when life often hangs in the balance as a result of such a differentiation, anything that will add to the surety is worthy a careful consideration. The guaiacum and haemin tests have their uses and the information obtained by the microscope in measuring corpuscles, etc., is also valuable, but in spite of these there has always been a certain amount of "reasonable doubt" about the results.

Since our knowledge of serum immunity has been extending, it has been found that the injection of foreign elements into an animal of one species produces in an animal of another species substances which are antagonistic to those injected, the so-called antibodies. Serums have accordingly been obtained which have the property of agglutinating and destroying red blood corpuscles, the haemoagglutinins, and the haemolysins, similar to the familiar typhoid agglutinating reaction. Valeó has formulated the following law: "If animal A is inoculated repeatedly with an albumenoid material derived from an animal of a different species, B, the serum of the animal A acquires the property of precipitating in vitro albumenoid solutions derived from the species B." The

more widely separated the species are from one another, the more characteristic is the reaction.

Bordet and Tchestovitch were the first to put this to a practical test in the identification of bloods from different animals, but it remained for Uhlenhuth to use it first for the medico-legal detection of blood.

The method is briefly to inject into the peritoneal cavity of the rabbit defibrinated human blood (usually got from the placenta) at intervals of six or eight days for five or six times. It has been found that the serum from a rabbit treated in this way will agglutinate with human blood only. The preparation of this anti-serum requires a good deal of care, but if properly prepared, is reliable. The reaction should occur within twenty minutes, but if it occurs within an hour and the presence of ape's blood can be excluded, the suspected blood is positively human according to Wasserman and Schütze.

Nuttall and Dunkelspiel, after very elaborate studies with antisera of all sorts of animals, give among other conclusions, these: 1. These precipitins are specific although they may produce a slight reaction with sera of allied animals. 2. The test can be successfully applied to a blood which has been mixed with that of several animals. 3. We have in this test the most delicate means hitherto discovered of detecting and differentiating bloods.

Rather recently A. Robin* has used this method in the murder case, Del. vs. Elmer Collins. The court accepted this test as reliable and charged the jury according to the findings. Robin says that after studying the voluminous literature on the subject and conducting his own experiments, he is convinced of the specific na-

*N. Y. Medical Journal, Mar. 5 and Mar. 12, 1904.

ture of the test and believes that discrepancies found in the different authors are due to faulty technique and not to the test itself. HARRISON D. JENKS.

DO PRESCRIBING OPTICIANS PRACTICE MEDICINE?

This long-mooted question has been decided in the negative by the Supreme Court of Illinois. The decision was on appeal from the Appellate Court by the Illinois State Board of Health, in a case in which it sought to debar an optician from treating defective vision and its associated disabilities. Both courts admitted that the optician claimed to correct visual defects, but affirmed that such correction was not practice of medicine. The Supreme Court further said that the optician's claim to benefit or cure headaches, blurring, itching and burning, etc., of the eyes was not practice of medicine.

It would seem that a minimum of common sense would discredit this decision. If practice of medicine is not the application of means for the relief of physical defects and infirmities, what name may be given this pursuit?

We suspect that the decision rested on the intention of the courts to side with the people. For hundreds of years the people have selected their glasses by guess, and are unwilling to have this privilege curtailed by a law which would compel them to resort to a skilled physician when eyesight failed. Their fathers and their fathers' fathers were served well by this primitive method and why not they? Probably the very judges of the courts secured their glasses in this manner.

Modern ophthalmology has placed the treatment of ocular defect on a more scientific basis, but neither judges nor the peo-

ple have practically learned this fact. Since this is a country in which majorities rule even the courts, we may expect decisions like the one quoted. The remedy is such education of the people that they may realize the advantages of a scientific study of all defective eyes ere purchasing glasses.

The prescribing druggist belongs to the same class as does the corner grocer or the department store selling proprietary medicines. These and their like are relics of a by-gone condition, still lingering and controlling the habits of the masses.

If medical organization directs its efforts to an education of the public, to a knowledge of the waste, danger, and expense to them of such habits, the majority will finally be wiped out. The struggle will be severe and protracted, because most lives are the unthinking reproduction of their ancestors—all changes are resented that go below the surface.

That fraud, ignorance and superstition are the active agents in the prosperity of every prescribing optician or druggist, etc., is well known, so is the traffic in abortion, infanticide, and other agencies clearly antagonistic to the wholesome life of every community; but they can only be uprooted by turning into different channels the currents of human life. Each physician who teaches the real facts to the people who trust him, can contribute to the victory of science over guessing, of knowledge over ignorance, of honesty over dishonesty, and so conserve to his following the largest possible good.

TYPHOID FEVER AND PREG- NANCY.

The study of infectious diseases, as influenced by pregnancy, and of pregnancy when complicated with infectious diseases,

has always been interesting to both internists and obstetricians. In reporting an important case in a recent paper, Lynch* reviews our knowledge of the association of pregnancy and typhoid fever.

The study of typhoid fever during pregnancy began with the observations of Louis in 1829, while Cazeaux in 1844, was the first to discuss the subject in a work on obstetrics. Cummins reported several cases in the *Dublin Medical Journal* in 1859. Since then many German papers have appeared on the subject and it has been a popular one for French thesis.

According to Lynch, there are not many reliable statistics on the frequency of this association. Curschman, in 1817 cases of typhoid in female patients at Leipzig and Hamburg, found 45 cases (2.5%); Golt-dammer noted 26 in 640 (4%); Martinet 16 in 460 (3.5%), and Osler 4 in 289 (1.4%). Thus for a total of 3206 female patients pregnancy and typhoid co-existed in 91 instances, or less than 3%, but these statistics include the young and the aged as well as the women in the child-bearing age.

It was formerly held that pregnancy affords a protection against typhoid, but later observations during epidemics in small towns, show that pregnant women contract the disease in about the same proportion as the non-pregnant. Sacquin has collected and made a careful study of the cases in the literature, coming to the conclusion that abortion occurs most frequently in the third month of pregnancy and during the second week of the fever. There have been various theories proposed to explain this tendency to abortion. Claude Bernard and Max Runge** be-

lieved that the prolonged high temperature causes first the death of the foetus and subsequently contractions of the uterine musculature. Golt-dammer advocated hemorrhagic endometritis as a factor, but this view has not been supported by subsequent observations. Sacquin believes that the abortion is due to the action of toxic substances of the medullary centers, a theory considered by Lynch as most probable.

Experimentally, the typhoid bacillus has been proven to pass from mother to foetus in guinea pigs and in rabbits, and there are about twenty cases on record in which this has been demonstrated in the human race. In many other cases, cultures made from the foetus have been negative, so that it is the generally accepted dictum that there must be some lesion of the placenta which allows of the transmission of the microorganisms, although such has not been proven in all cases.

B. R. SCHENCK.

HYDROTHERAPY.

"The Medical Baths," an institution for giving rational hydrotherapy, was opened in Boston, December, 1903. This was made possible through the generosity of many of the physicians and laymen of that city. The medical profession own and manage the institution, devoting any surplus income to improving the establishment. At present it consists of a reception room, five small and one large treatment rooms and a douche room with a Baruch apparatus. Treatments are given by graduate male and female nurses.

Those familiar with the facts, know that the physiological and clinical studies of Winternitz have placed empirical water treatments on a scientific basis, so that we are now able to predict the action of a

*J. Hopkins Hosp. Reports, vol. x.

**Arch. f. Gyn. Bd. xii. s. 16.

definite hydrotherapeutic procedure in a given case with as much certainty as we can that of strychnia or morphine.

Cohen urges that every city have an establishment to which physicians might refer their patients with a definite hydriatic prescription, just as they now can send them to the druggist with a definite pharmaceutical prescription.

There are now plenty of institutions whose prosperity depends upon the empirical use of these baths, but whose methods render them objectionable. It would seem that the medical profession of the larger cities in this country might wisely enhance the value of their organization by the establishment of such an institution as that in Boston.—(*Boston Medical and Surgical Journal*, March 17, 1904, J. H. PRATT.

THE THIRTY-NINTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY.

The thirty-ninth annual meeting of the Michigan State Medical Society, to be held at Grand Rapids May 25th, 26th and 27th, and the first to extend over three days, gives promise of being second to none in point of scientific worth and attendance.

The attention of the members is directed to the program of the meeting, which appears in this number of *THE JOURNAL*. It will be noticed that the meetings of the House of Delegates and the General Meetings occupy the mornings and that the three afternoons are devoted to section work.

As the business of the Society is left exclusively to the House of Delegates, it is expected that the delegate elected by

his County Medical Society will attend, or if unable to attend, will give ample notice to his alternate.

All the meetings will be held in one building, which the Committee on Arrangements has given assurance is commodious and ample to accommodate all the various sections, committees, etc.

Nothing will be left undone for the social enjoyment of the visiting members. It is expected that U. S. Senator J. C. Burrows will deliver an address on some subject in connection with medical legislation on Wednesday evening, May 25th. On Thursday evening, May 26th, Dr. A. J. Ochsner of Chicago will deliver an address on Appendicitis, which will be freely discussed by members from the various parts of the State.

This is the second annual meeting since the adoption at Port Huron of the revised constitution and by-laws. The task of those to whom has been entrusted the responsibility of the details of the work of organization has been laborious and replete with anxiety, but the results, as embodied in the reports from the secretaries of the sixty County Medical Societies, are gratifying and encouraging. Every member owes it to himself and to these officials to lighten their labor for the common welfare of the profession by his attendance at these annual gatherings.

Grand Rapids extends a hearty welcome to all the members. Let us then lay aside our work for a few days and join with our hosts in the interchange of knowledge and professional good fellowship. A well attended and successful meeting is the best incentive for the work of another year.

The usual railroad rates of one and one-third fare for the round trip have been secured.

Headquarters: "Morton House."

County Society News.

The management of the Journal desires to make the department on County Society News of the greatest possible interest to all practitioners in the State. This can only be accomplished through the assistance of the Secretaries of the various County Societies. It is therefore requested of them that, whenever possible, they send an abstract of the papers read before their Society and the discussions aroused by them. If for any reason this abstracting on the part of the County Society Secretary is impossible, it is requested that the papers be sent to the editor's office where they will be abstracted and returned to the writer. Anything which will be of interest to all in the way of items concerning members, resolutions introduced, etc., will gladly be received. It is only by the persistent cooperation on the part of the County Society Secretaries that this department can reach its greatest usefulness.

ALLEGAN COUNTY.

The regular quarterly meeting of the Allegan County Medical Society was held in Allegan, April 8th.

An exceptionally able paper on the subject of "Insanity Among Criminals" was read by W. H. Bills, ex-President of the Society, and President of the United Prison Boards of Michigan.

In the afternoon, the Society was privileged to listen to an address on the subject of "Extra-Uterine Pregnancy," by O. E. Herrick, of Grand Rapids, who was present as the guest of the Society.

Abstract—

The speaker related, in illustration of the subject, the history of a case occurring in hospital practice, where a patient was thought to be suffering from a simple exudate on the side of the uterus, the symptoms having been sickness at the stomach, pain in the side, absence of temperature and irregular attacks of slight uterine hemorrhage, independent of the menstrual periods. The patient went into collapse without premonitory symptoms. Stimulation by the usual methods, including saline hypodermoclysis, was unavailing, and the patient died before surgical intervention could be had. The necropsy showed a ruptured tubal pregnancy, with death from internal hemorrhage.

This case is illustrative of the necessity for recognizing the condition of extra-uterine pregnancy early, before the possibility of occurrence of such a catastrophe as that just mentioned.

The symptoms of extra-uterine pregnancy are: (1) persistent pain in the side, at times so sharp as to require opiates for its relief; (2) absence of temperature; and (3) irregular uterine hemorrhages, independent of the menstrual periods. The co-existence of these symptoms justifies an exploratory laparotomy, because: (1) the operation, when properly performed, is devoid of danger; and (2) the life of the patient is jeopardized if the condition is allowed to progress without operative interference.

A large proportion of the cases do not rupture, but the fetus dies and is absorbed; but during the process of absorption of the fetus, sufficient adhesive inflammation occurs to glue the tube and ovary to the pelvic floor, thus destroying the function of these organs, so that sooner or later surgical relief must be sought.

These cases of extra-uterine pregnancy terminate in three ways: (1) rupture and death; (2) adhesive inflammation, glueing the tube and ovary to the pelvic floor and thus crippling them; (3) tube may not rupture early, but tube containing fetus sinks down between folds of the broad ligament and embryo develops for several months; tube then ruptures either into the cavity of the abdomen, when fetus dies, or it adheres to the rectum and decomposes and ulcerates its way through rectal wall and is discharged per rectum.

Many cases of extra-uterine pregnancy are never recognized, and many cases which are not recognized at the time, but which are subsequently operated on under the diagnosis of pyo-salpinx, are found to be not pus tubes at all, but tube and ovary are found matted together and adherent to the pelvic floor—the relics of an extra-uterine pregnancy.

Diseased conditions of the tubes, such as hydro-salpinx, predispose to the occurrence of tubal pregnancy.

G. G. TAYLOR, Sec'y.

CHIPPEWA COUNTY.

The annual meeting of the Chippewa County Medical Society was held December 1st, 1903, at Sault Ste. Marie. President J. R. Bailey announced that he was not a candidate for reelection and desired to establish a precedent that no president shall succeed himself in office for the reason that it is better for the interest and

effectiveness of the society to have that honor passed around.

After the election of officers, the retiring president, J. R. Bailey, delivered the following address:

On the 3rd day of the twelfth month of the year 1902, the medicine men of the Chippewa, Mackinaw and Luce Band were convened in the wigwam of the Iroquois, by T. A. Felch, the District Councilor and Chief Sachem, who resides in Ishpeming ("High up"), the heaven of the Indians, to adopt a constitution and by-laws, and to transact such other business as the chief directed.

It was not the first important gathering of the heads of clans at the *leap* or *fall* of St. Mary's. Nicolet, the Indian interpreter, convoyed by seven friendly Hurons, sailed and paddled up the river in 1635, to this place, when he was on his memorable journey to the land of the Winnebagos, to make a treaty with them, and many other tribes.

In 1642 Fathers Isaac Jaques and Rayambault planted the cross and established a mission at Sault Ste. Marie.

On the 14th of June, 1671, St. Lueson proclaimed the *PROCESS VERBAL* to the "Achipoes, Malhomi, Poutteatimes," and other Indian nations, and erected a large cross on a hill to produce the fruits of Christianity, and near it, a cedar pole, to which was attached the arms of France, and crying, three times, with a loud voice, the proclamation: "In the name of the Most High, Most Powerful, and Most Redoubtable, Monarch, Louis XIV., of Name, Most Christian King of France and Navare—We take possession of Sainte Marie du Sault, and Lakes Huron and Superior, and Manitoulin Island, and the islands and rivers with the lakes and lands, bounded by the sea of the North and West, and sea of the South and East," twice turning a sod, and crying and causing to be cried in French and Indian, "VIVE LE ROY!"

Then the completion and opening of the canals and locks, in our day, to facilitate navigation, and of the water power canal, is history being made. This point is a pivotal spot, so to speak, on which a great wheel revolves its axle on the falls, pointing towards the zenith, with spokes radiating towards the seas, where the rim revolves, sweeping the productions and commerce of a continent to the given center.

God moves in a mysterious way his wonders to perform. The universe moves; the sun moves; the earth moves; mountains move, continuously towards the sea; the air moves, we know it, breathe it, and feel its force; the waters move.

We see them, and hear the cataract roar. The Soo moves, has moved, is changed and will change. Times are changed and so are we in them.

GEO. J. DICKISON, Sec'y.

INGHAM COUNTY.

OBSTETRICS IN GENERAL PRACTICE.

O. H. FREELAND, MASON.

Abstract.

1. Preliminary preparation of patient, if seen some weeks or months before the confinement:

a. Get and keep her in as good a condition as possible.

b. Watch condition of her urine.

2. Some practical points concerning the confinement:

a. The physician's hands should be as aseptic as possible.

b. Cleanse external part of patient with ethereal soap and wash with bichloride of mercury solution.

c. We should not be in too great haste to apply forceps, nor should we delay using them when the occasion demands them.

d. Oftentimes in the first stage of labor, the patient, more especially if she be a primipara, becomes nervous and hysterical. The os upon examination is rigid and undilatable, while the pains are severe and irregular. In such cases, small and repeated doses of chloral hydrate and sodium bromide in solution gives good results.

e. Partial anesthesia with chloroform during the second stage is often of much benefit and lessens the danger of tearing the perineum.

f. The placenta and its membranes should be carefully examined to see that no part has been left within the birth canal.

g. The patient should always be examined as a matter of routine for lacerations. If any are found they should be sutured at once.

h. Usually upon the second day it is well to begin giving laxatives.

WAYNE COUNTY.

GENERAL MEETING MARCH 31, 1904.

The following resolution was passed unanimously by the Society:

"The Wayne County Medical Society, representing more than 350 physicians in the County of Wayne, respectfully petition the United States Senate that the Bill for Preventing the Adulteration or Misbranding of Foods or Drugs, and for Regulating the Traffic Therein, and for other Pur-

poses (Senator Hepburn) as amended by the Senate Committee on Manufactures, and now pending before the Senate (calendar No. 1165), be enacted into law at the earliest practical moment. The provisions of said bill are essential to the proper protection of the public welfare and the medical profession stands as a body for the Bill."

GUY L. CONNOR,
Sec'y.

Miscellaneous.

NEWS ITEMS.

The Wichita Medical Journal and *The Western Medical Journal* have been merged with *The Journal*, of The Kansas Medical Society.

The Chairman of The National Legislative Committee has appointed the following committee to formulate a Standard Medical Practice Act:

S. D. Van Meter, Colorado (chairman).
J. R. Currens, Wisconsin.
W. H. Sanders, Alabama.
Emil Amberg, Michigan.
J. A. Dibrell, Arkansas.

The Pennsylvania Railroad have ordered a number of cars which are to be fitted up with all the modern and scientific apparatus necessary to handle the accident cases occurring on their lines. These cars are to be stationed at convenient points, and will be under the control of the various surgeons of the road.

At a meeting of physicians held in Philadelphia, March 28th, the following committee was appointed to effect the organization of The United States Association for the Study of Tuberculosis:

William Osler, chairman.
H. Barton Jacobs, secretary.
E. L. Trudeau.
George M. Sternberg.
William H. Welch.
L. F. Flick.
H. M. Biggs.

This committee will meet in connection with The American Medical Association at Atlantic City this coming June.

On the recommendation of the United States Public Health and Marine Hospital Service, the

Pullman Car Company will run on certain days of each week special cars for consumptives from the various eastern cities to the Pacific Coast.

The Virginia Legislature has passed a law forbidding the sale of cocaine except to physicians, dentists and druggists.

Owing to the number of cases of tetanus which have developed after injury from the use of toy pistols and the like, the Cincinnati Council passed an ordinance March 17th which prohibits the sale of toy pistols, caps, and blank cartridges to minors. The penalty for violating this ordinance is \$100.

CHANGE IN MEMBERSHIP.

(March 15th to April 15th.)

NEW MEMBERS.

A. J. Bates—Camden, Mich.
Guy Bailey—Mackinac Island, Mich.
C. A. Bartholomew—Martin, Mich.
F. N. Blanchard—1379 W. Fort St., Detroit, Mich.
B. E. Brush—Croswell, Mich.
P. T. Butler—Alamo, Mich.
F. C. Diver—Kalamazoo, Mich.
Chas. Drummond—Painesdale, Mich.
H. A. Eades—Bay City, Mich.
L. French—Benton Harbor, Mich.
W. Gass—Big Beaver, Mich.
G. A. Gordan—Brimsley, Mich.
L. D. Hixson—Durand, Mich.
R. H. Hodges—Brighton, Mich.
P. R. Hungerford—Concord, Mich.
N. H. Kassabian—Coopersville, Mich.
W. G. Kelly—Bay City, Mich.
J. Kremer—Grand Rapids, Mich.
E. S. L'Esperance—270 Woodward Ave., Detroit, Mich.
J. H. McCartney—Sodus, Mich.
Alex. McGregory—Fowlerville, Mich.
A. A. McKinnon—Port Huron, Mich.
A. W. Nicholson—Newberry, Mich.
G. V. Oill—Ludington, Mich.
A. J. Patterson—Grand Rapids, Mich.
A. J. Radzinski—Bay City, Mich.
W. Robinson—Ishpeming, Mich.
D. E. Squires—Vicksburg, Mich.
H. F. Thomas—Allegan, Mich.
J. C. Welsh—Grand Rapids, Mich.
S. A. Whinery—Grand Rapids, Mich.

CHANGE OF ADDRESS.

W. W. Arscott—Rogers City, Mich.
 A. D. Baugham—Albion, Mich.
 Emma L. Clawson—Los Angeles, Cal.
 J. M. Elliott—Jonesville, Mich.
 D. R. Harris—293 Merrick Ave., Detroit, Mich.
 C. W. Isaminger—Alpena, Mich.
 D. Kerr—18 John R St., Detroit, Mich.
 J. C. McDonnell—Deckerville, Mich.
 R. J. McMeekin—804 Humboldt St., Detroit, Mich.
 E. Orton—Pontiac, Mich.
 Alex. Thompson—Adair, Mich.
 G. H. Townsend—Tompkins, Mich.
 H. S. Wagner—Toledo, Ohio.
 C. W. Yarrington—Calumet, Mich.

DEAD.

H. A. Godale—East Tawas, Mich.
 Willis Parr—Metz, Mich.

EXPULSED.

F. W. Main—Jackson, Mich.

BOOKS RECEIVED.

DISEASES OF THE EYE.—By Howard F. Hansell, M. D., and William M. Sweet, M. D. P. Blakiston's Son & Co. Philadelphia.

DISEASES OF THE NOSE AND THROAT.—By Charles Huntoon Knight, M. D. P. Blakiston's Son & Co. Philadelphia.

GENERAL PATHOLOGY.—By Sidney Martin, M. D. P. Blakiston's Son & Co. Philadelphia.

MANUAL OF CLINICAL MICROSCOPY AND CHEMISTRY.—By Herman Lenhartz, M. D., of Hamburg. Translated by Henry T. Brooks, M. D., of New York. F. A. Davis Co. Philadelphia. 1904.

THE SELF CURE OF CONSUMPTION.—By Chas. H. S. Davis, M. D. E. B. Treat & Co. New York. 1904.

TRANSACTIONS OF THE VERMONT STATE MEDICAL SOCIETY. 1903.

Inflammatory Affections of the Pancreas.**A. Classification.**

1. Catarrhal inflammations in which the inflammatory trouble is in the ducts.

a. Simple catarrh.

I. Acute.

II. Chronic.

b. Suppurative catarrh.

2. Parenchymatous inflammations in which the substance of the pancreas is involved:

a. Acute.

I. Haemorrhagic pancreatitis.

(x) Ultra-acute, in which the haemorrhage precedes the inflammation, the bleeding being profuse both within and without the gland.

(xx) Acute, in which the inflammation precedes the haemorrhage, which is less profuse and is distributed in patches through the gland.

II. Gangrenous pancreatitis.

III. Suppurative pancreatitis (diffuse suppuration).

b. Subacute.

Abscess of the pancreas (not diffuse suppuration).

c. Chronic.

I. Interstitial pancreatitis.

(x) Interlobular.

(xx) Interacinar.

II. Cirrhosis of pancreas.

B. Etiology:

1. Predisposing causes.

a. Obstruction in the ducts, the result of

I. Gall-stones.

II. Duodenal catarrh.

III. Pancreatic calculi.

IV. Cancer of the papilla or of the head of pancreas.

V. Ulcer of duodenum followed by cicatricial stenosis of the papilla.

VI. Ascarides and lumbrici.

b. Injury from a

I. Bruise as by manipulation in operating.

II. Crush as by a blow in the epigastrium.

III. Wound by a sharp instrument.

c. Haemorrhage into the gland.

d. General ailments as

I. Typhoid fever.

II. Influenza.

III. Mumps.

e. Certain anatomical peculiarities in the pancreas or its ducts.

f. Atheroma or fatty degeneration of the blood vessels.

2. Exciting causes:

a. Infection conveyed either

I. From the blood, as in syphilis or pyaemia.

II. From the duodenum, as in gall-stone obstruction or gastro-intestinal catarrh.

III. By extension inwards from adjoining organs, as in gastric ulcer or cancer eroding the pancreas.

b. Irritation, as in alcoholism (doubtful).

C. Miscellaneous.

1. Catarrhal inflammations.

a. Simple catarrh—acute and chronic.

The history of the case and the digestive and metabolic signs, swelling of the pancreas (which

in some cases can be recognized by palpitation through abdominal wall, while in others only by manipulation through the opened abdomen) should help one to make a diagnosis.

b. Suppurative catarrh.

In all cases that the writer has seen, gall-stones have been the cause of the trouble. The disease tends towards death from septicaemia or pyaemia, or if the process be less acute or the vital powers more resistant, it may possibly end in a localized abscess. In this form the only thing to do is to operate.

Suppurative catarrhal pancreatitis is quite as serious as acute phlegmonous pancreatitis, and unless treated surgically must be almost necessarily fatal.

2. Parenchymatous inflammations:

a. Acute pancreatitis.

Fitz's rule is worth bearing in mind. Acute pancreatitis is to be suspected when a previously healthy person or a sufferer from occasional attacks of indigestion is suddenly seized with violent pain in the epigastrium, followed by vomiting and collapse and in the course of 24 hours by a circumscribed epigastric swelling, tympanitic or resistant with a slight rise of temperature.

Halstead lays stress on two symptoms, the excessive epigastric pain and the cyanosis of the face and of the abdominal wall.

The urinary test (see page 224) for pancreatic crystals should not be neglected, as a positive reaction has been obtained in all the cases of acute pancreatitis in which it has been tried.

b. Subacute pancreatitis.

As gall-stones are the usual cause of this form of pancreatitis, a history of intermittent attacks of spasms, at first without and later accompanied by jaundice, will be elicited and before the onset of the pancreatic trouble, the symptoms of infective cholangitis, in the shape of rigors with deepening of jaundice and with intermittent fever, will generally be found. The collapse in this form is not so marked as in the acute variety, and may be entirely absent. The onset as a rule is more gradual and the upper abdominal region does not become so rapidly distended as in acute pancreatitis. The prognosis is very much better in this form.

c. Chronic pancreatitis.

By chronic pancreatitis is understood an interstitial change of an inflammatory character leading to formation of fibrous tissue. It may be interlobular, in which case it exerts pressure on and causes atrophy of the true glandular substance of the pancreas and interferes with the digestive

function or interacinar, in which case the fibrous tissue invades also the islands of Langerhans and leads, not only to an interference with the digestion but also with the metabolic functions of the gland and so glycosuria. Chronic interstitial pancreatitis may be primary, as in those cases recovering from acute or subacute forms of pancreatitis or from acute or chronic or suppurative catarrh, or it may be secondary, as in syphilis, alcoholism, and arterial degeneration and in zymotic diseases, such as typhoid fever and influenza.

D. Treatment.

1. Treatment of catarrhal inflammation of the pancreas and of chronic interstitial pancreatitis will be at first by general and medicinal means aiming at the cause, whether that be gall-stones, pancreatic calculi, duodenal catarrh, gastric ulcer, alcoholism or syphilis. If after a fair trial of medical treatment, not too long continued, the jaundice and loss of weight continue, and the signs of failure in pancreatic digestion and metabolism are manifesting themselves, the question of surgical treatment should be seriously considered, for the condition is one that if not relieved early will certainly lead to serious degeneration of the gland.

2. When the operation is undertaken before the process has advanced to well-marked pancreatitis, or to the interacinar form, the writer's experience has been that complete cure is effected in a very great proportion of cases.

3. If the interstitial process has become well marked, an arrest of the process is all that can be looked for.

4. Surgical treatment will vary according to the cause and the symptoms.

5. Where there is evidence of obstruction, whether in the pancreatic or common bile-ducts, the cause in the greater number of cases will prove to be concretions which should, if possible, be removed.

6. Beside the removal of the above, the bile-ducts should be drained either by cholecystotomy or cholecystenterostomy, which will nearly always afford relief by

I. Removing the infected bile and thus ridding the system of poison which tends to deteriorate the blood.

II. Removing the pressure of pent-up bile from the pancreas, thus relieving tension.

7. In acute pancreatitis the surgeon should not wait to operate until the collapse has passed off, as that may be dependent on septic absorption, which can only be relieved by operation. The operation aims to relieve tension, to evacuate septic material, to secure free drainage and to arrest

haemorrhage (if present), which leads to disintegration and necrosis of the pancreas.

8. The subacute form of pancreatitis is more amenable to treatment than the acute form. It has usually been attacked when an abscess has formed and is manifestly making its way to the surface. Yet there is no reason why in some cases, surgical treatment should not be adopted at an earlier stage.

9. Whether advanced chronic interstitial pancreatitis will be completely cured by operation, it is difficult to say, for in some of the severer cases a pancreatic reaction is found long after the operation and after all other symptoms have cleared up, but in several cases that have been tested years after the operation, the pancreatic reaction has entirely disappeared, thus apparently proving that the case is cured. It is probable that the operation arrests the process of disorganization, even if it cannot alter changes that have already occurred. Doubtless in some, the disease was a catarrhal inflammation of the pancreas, which was arrested either before interstitial inflammation had actually developed or before it had advanced too far. Probably in none of the cases had the interstitial change advanced so far as to become interacinar or to present the advanced stage of atrophy or cirrhosis, as in none of the cases was sugar present in the urine at the time of operation, though the metabolic functions of the pancreas were impaired, as shown by the presence of the pancreatic reaction. The digestive functions were affected, as shown by the condition of the faeces.—(*The Lancet*, March 26, 1904. A. W. Mayo Robson.)

Cysts, Injuries, Calculi and Neoplasms of Pancreas. Cysts of Pancreas.—The most frequent cause of this is chronic interstitial pancreatitis, in which compression and constriction of the ducts result from a new formation of connective tissue with consequent stagnation of secretion. The pancreatic urinary reaction is present (page 224).

The symptoms depend on the disease leading to the cystic formation, and later to the pressure exercised by the tumor on the neighboring viscera.

In 6,000 post-mortem examinations by W. Hale White, at Guy's Hospital, during the years 1883-1894, pancreatic cysts were only found in four cases, and one of these was a hydatid cyst.

Injuries to Pancreas.—These are not necessarily fatal. Indications for operation depend on presence of either hemorrhage or inflammation.

Pancreatic Calculi.—Oser reports 70 recorded cases. To this number may be added seven more.

The stones are usually multiple. They contain lime in the form of carbonate, phosphate, or oxalate. They are therefore opaque to X-ray and so we have a means for diagnosing them.

The symptoms depend on the associated condition whether that be a cyst, abscess, chronic inflammation or other pathologic state. The pancreatic urinary reaction is present (page 224).

The stones should be removed surgically.

Neoplasms of Pancreas.—Carcinoma, sarcoma, adenoma, lymphoma and the granulomata (tubercle and gumma) are found.

Carcinoma is the most common neoplasm of the pancreas. The whole clinical course is run as a rule within twelve months. The surgical treatment is not very hopeful. It may be radical or palliative.

The primary sarcoma is rare though the secondary type is less uncommon. Very little so far has been done in a surgical way.—(*The Lancet*, April 2, 1904. A. W. Mayo Robson).

Effects of X-ray Upon Lower Animal Life and the Tube Best Suited to Their Destruction.

1. Technique:

a. Strongest rays are those directed from the centre of the anode plate in a line perpendicular to its face.

b. Best results are obtained if a sheet of lead be rolled into a cylinder and the rays directed through this.

c. Distance between the tube and specimen is of great importance. The closer the tube is the more potent are the rays. The writer has used 5 inches as the standard distance between the tube and specimen.

d. Coil 18 inches was the one employed by Dunham.

2. It is probably the X-ray and not the cathode ray that causes destruction of epitheliomata.

3. Effect of X-ray on lower organisms:

a. Chilomonas.

b. Paramoecium aurelia.

c. Paramoecium bursaria.

d. Cryptomonas.

Killed by X-ray.

e. Rotifera.

f. Arcella.

Unaffected by X-ray.

4. Conclusions:

a. There seems to be an analogy existing between these lower organisms and new malignant cells.

b. The best ray to destroy epitheliomatous and sarcomatous cells is the lower tube excited by a heavy current with much resistance.

c. Thus perhaps our first step toward cure of these malignant growths has been taken. (*Johns Hopkins Bulletin*, February, 1904. KENNON DUNHAM.)

PROGRAM

OF THE

39th Annual Meeting

OF THE

Michigan State Medical

... Society ...



At the St. Cecilia Building,
Grand Rapids, Mich.

Wednesday, Thursday and Friday,
May 25, 26 and 27, 1904.

THE COUNCIL

Chairman—LEARTUS CONNOR, Detroit.
Secretary—W. H. HAUGHEY, Battle Creek.

*Tuesday, May 24th, 7 o'clock P. M. Standard, at
the Morton House.*

*Wednesday, May 25th, 4 o'clock P. M. Standard, at
the St. Cecilia Building.*

*Thursday, May 26th, 4 o'clock P. M. Standard, at
the St. Cecilia Building.*

*Friday, May 27th, 1.30 o'clock P. M. Standard, at
the St. Cecilia Building.*

Organization and Election of Officers.

HOUSE OF DELEGATES

ST. CECILIA BUILDING

President—WM. F. BREAKEY, Ann Arbor.
Secretary—A. P. BIDDLE, Detroit.

BY-LAWS—CHAPTER IV. Section 1. Each Component County Society shall be entitled to send to the House of Delegates each year one delegate for every 50 members, and one for each major fraction thereof; but each County Society holding a charter from this Society, which has made its annual report as provided in this Constitution and By-Laws, shall be entitled to one delegate.

FIRST DAY, WEDNESDAY, MAY 25th

9 A. M. STANDARD

1. Call to order.
2. Roll Call.
3. Reading of Minutes of the last Annual Meeting.
4. Report of the Council
LEARTUS CONNOR, Detroit, Chairman.
5. Report of Committee on Legislation and Public Policy
W. H. SAWYER, Hillsdale, Chairman.
6. Report of National Legislative Council, A. M. A.
EMIL AMBERG, Detroit, Michigan Member.

7. Miscellaneous Business
 - a) Appointment of Committee on Nominations to nominate
 - 1st, 2d, 3d and 4th Vice-Pres.
 - 2 Representatives in House of Delegates, A. M. A., for 2 years.
 - To fix Place of Meeting for 1905.

Adjournment to General Meeting.

SECOND DAY, THURSDAY, MAY 26th

9 A. M. STANDARD

1. Reading of Minutes of Previous Meeting
A. P. BIDDLE, Detroit, Secretary.
2. Unfinished Business.
3. Report of Committee to petition the Legislature for an appropriation for the establishment of a properly equipped Sanitarium for the *Treatment of the Early Stages of Tuberculosis*
B. D. HARISON, Sault Ste. Marie.
4. Report of Committee on Vital Statistics
H. B. BAKER, Lansing, Chairman.
5. Miscellaneous Business.

Adjournment to General Meeting.

THIRD DAY, FRIDAY, MAY 27th

9.30 A. M. STANDARD

1. Reading of Minutes of Previous Meeting
A. P. BIDDLE, Detroit, Secretary.
2. Unfinished Business.
3. Report of Committee on Nominations.
4. Miscellaneous Business.

Adjournment to General Meeting.

GENERAL MEETING

ST. CECILIA BUILDING

President—WM. F. BREAKEY, Ann Arbor.
Secretary—A. P. BIDDLE, Detroit.

FIRST DAY, WEDNESDAY, MAY 25th

10.30 A. M. STANDARD

1. Call to order.
2. Prayer
REV. J. HERMAN RANDALL.
3. Address of Welcome
HON. EDWIN F. SWEET, Mayor,
Grand Rapids.
4. Report of Committee on Arrangements
D. E. WELSH, Chairman.
5. Report from the House of Delegates
A. P. BIDDLE, Detroit, Secretary.

6. Address of the President

WM. F. BREAKEY, Ann Arbor.

"Obligations of the State to conserve Life and Health."

7. Miscellaneous Business
 - a) Nominations for President
- Adjournment.*

8 P. M. STANDARD

National Auxiliary Congressional and Legislative Committee of the American Medical Association of the Counties of Michigan.

1. Introductory Remarks
EMIL AMBERG, Detroit,
Mich. Member National Legislative Council of the A. M. A.
2. Address
To be Announced.
3. The Work of the Auxiliaries in their respective Counties
J. B. GRISWOLD, Grand Rapids.
4. The National and State Legislatures and the Auxiliaries
H. A. HAZE, Lansing.

Discussion General.

SECOND DAY, THURSDAY, MAY 26th

10.30 A. M. STANDARD

1. Unfinished Business.
2. Report of Committee to secure data regarding the prevalence of Venereal Diseases in Michigan
A. E. CARRIER, Detroit, Chairman.
3. Oration on Surgery
H. E. RANDALL, Lapeer.

"Abdominal Pain."

4. Oration on General Medicine
DAVID INGLIS, Detroit.
"A Message from the Clinician to the Laboratory Men."
5. Miscellaneous Business.

Adjournment.

THIRD DAY, FRIDAY, MAY 27th

10.30 A. M. STANDARD

1. Unfinished Business.
2. Report from the House of Delegates
A. P. BIDDLE, Detroit, Secretary.
3. Oration on Obstetrics and Gynecology
A. N. COLLINS, Detroit.

"Have we yet learned how potent for cure are the Natural Processes?"

4. Miscellaneous Business

At 12 o'clock Standard the result of the ballot for President will be announced

Introduction of the President Elect

Adjournment.

SECTION ON GENERAL MEDICINE

Chairman—R. H. SPENCER, Grand Rapids.
Secretary—H. B. BRITTON, Ypsilanti.

FIRST DAY, WEDNESDAY, MAY 25th

1.30 P. M. STANDARD

1. The Prevention of Drug Habits

W. J. WILSON, JR., Detroit.

Responsibility of the pharmacist and physician for their formation. The duty of the pharmacist and physician. The necessity of a state anti-narcotic law. The Beal model anti-narcotic law. The duty of the State Medical Society.

2. Gastropotosis; Special Methods of Treatment

W. E. NEWARK, Charlotte.

Gastropotosis is dilatation with prolapse of the stomach. Etiology: Errors of diet, half chewing of food, rapid eating, drinking of large quantities of fluids, improper methods of dress, lack of muscular development.

Diagnosis: Vomiting of large quantities of food after meals, more than the amount eaten at one meal, which is sour, a result of fermentation; large abdomen, which shows outlines of the stomach. The use of the gastrodiaaphane in the stomach.

Treatment: Correct errors in diet. Give test meal. Test the contents of stomach. Give dry diet, avoiding foods which are slow to digest; chew food thoroughly. Use lavage daily as long as stomach is sore and the food is fermented. Use hot fomentations to remove the soreness, massage the stomach daily to replace the organ and strengthen the muscles; also use electricity for the same purpose. Keep the bowels regular by enemas, drink plenty of sterilized water when stomach is empty.

3. Diagnosis of Diseases of Children

W. A. FERGUSON, Sturgis.

1. Why do we study Diseases of Children as a separate Art and Science?
2. What are the Peculiarities of the Digestive Organs?
3. What are the Peculiarities of the Nervous System?
4. Is there any language in the Cry—the Face—the Positions?
5. The Importance of Diet and what it means to the Child.
6. The Peculiarities of the Brain—the Liver—and the Generative Organs.

4. What is the General Paralysis of the Insane?

HIRAM A. WRIGHT, Detroit.

It is generally assumed by alienists and neurologists that in this condition the insanity manifest is dependent upon the cortical lesions observed. Several reasons are advanced in the essay to show the impropriety of this assumption.

5. The Test Breakfast in Diseases of the Stomach, with Report of Cases

CHARLES D. AARON, Detroit.

Definition of test-breakfast. Its value in obscure cases. The difference between achlorhydria, hypochlorhydria and hyperchlorhydria. A report of several cases, each case having different symptoms and all making a recovery by regulating the treatment according to the analysis of the stomach contents after a test breakfast.

6. Diagnostic Signs of Our Common Intestinal Parasites

F. A. MAPLES, Battle Creek.

7. Cause and Rational Treatment of Pneumonia

H. J. CHADWICK, Grand Rapids.

That Pneumonia is the result of obstruction to the circulation of blood in the capillaries of the tissues between the air cells and bronchi. That this obstruction is caused by the contracting effects of a cold atmosphere applied to the surface of the thorax and breathed into the lungs at times when the mind has been engaged in deep thought or is at rest in sleep, after the thorax has been excessively warm. That other portions of the body exposed in a similar way, will be congested and inflamed in a similar manner. That cold applied to the chest in the way to be described is the sole cause, barring accidents, of pneumonia, and not the pneumo-coccus. The oxygen supply to the blood being largely diminished on account of the obstructed blood vessels of the lungs, the activity of the skin to aid in furnishing this deficiency must be encouraged in every way possible. That the alimentary canal must be thoroughly cleaned and kept so. As the heat-producing oxygen is largely diminished, the body must be kept at its normal temperature by artificial means, with moist warm air. That poultices and hot water applications as usually applied are a damage. That applications of glycerine and clay is the wisest dressing for the chest yet discovered.

SECOND DAY, THURSDAY, MAY 26th

1.30 P. M. STANDARD

1. General Tic, with Report of Case

C. C. WALLIN, Grand Rapids.

(Presentation of a Case of Rickets).

2. Intertracheal Injections

WILLIS S. ANDERSON, Detroit.

3. Hysteria, Certain Manifestations

GUY L. CONNOR, Detroit.

4. A Case of Persistent Vomiting

COLLINS H. JOHNSTON, Grand Rapids.

5. Vascular Disease as a Factor in the Etiology of Epilepsy

WM. J. HERDMAN, Ann Arbor.

Cases showing the association of epilepsy with valvular disease of the heart, disease of the cerebral vessels and vaso-motor disorders. Discussion of the relation and significance of the same in causing the epileptic seizures.

6. A Pharmacological Study of Ethyl Salicylate

E. M. HOUGHTON, Detroit.

7. Treatment of Chronic Otitis Media

J. G. HUIZINGA, Grand Rapids.

1. General considerations, asepsis, antiseptics, etc.
2. Anatomy of the parts with special reference to the relation of the middle ear to the Eustachian tube.
3. The position and direction of this tube being such as to tend to retain such secretions as it may contain, should there exist a more or less complete occlusion.
4. The impossibility of obtaining thorough asepsis by the ordinary methods of syringing the ear as the douching fluids rarely reach beyond the drum membrane.
5. The necessity of thoroughly dilating the tube as the first step in the treatment. Methods: catheter, Politzerization and Valsalva's.
6. The necessity of obtaining thorough asepsis of the entire auditory tract from the external ear to the internal end of the Eustachian tube.
7. Technique in detail. Home treatment.
8. The necessity of obtaining as nearly normal a condition of the upper air tract as may be possible.
9. Cleansing solutions used. Preference for Iodine solutions.
10. Internal treatment according to indications.

3. Prophylaxis and Treatment of the Common Communicable Diseases of the Skin

H. R. VARNHEY, Detroit.

Should children who are afflicted with communicable skin affections, such as Ring-worm, Impetigo Contagiosa, Scabies, and Pediculosis be allowed to attend school? Consideration of medical inspection of schools; disinfection of money; public library books; street-cars; individual communion cups as prophylactic measures, etc.

Brief synopsis of personal management, and treatment of the diseases mentioned.

4. Proctitis and Sygmoïditis

WM. L. DICKINSON, Saginaw.

1. Review of significant anatomical features of sygmoïd and rectum.
2. Frequency and causes of disease.
3. Varieties—Atrophic and hypertrophic.
4. Symptoms of each variety; pathology and treatment.

5. The Value of the Tuberculin Test

I. H. NEFF, Pontiac.

6. A Case of Colitis with Treatment

F. HOLMES BROWN, Nawaygo.

7. Laryngeal Complication of Typhoid Fever

W. L. WILSON, St. Joseph.

THIRD DAY, FRIDAY, MAY 27th

1.30 P. M. STANDARD

Election of Chairman and Orator of Section.

1. Pneumonia in Children

LOREN CURTIS, Paw Paw.

1. The frequency of Pneumonia in children.
2. The lungs are attacked more often than any other organ during childhood.
3. Nearly all of the pneumonias of childhood have the pneumococcus present and nearly all are preceded by a bronchitis.
4. Both a lobar catarrhal pneumonia and a primary acute bronchopneumonia are found in children.
5. The cause of pneumonia.
6. Signs and symptoms of pneumonia.
7. The importance of the pneumonic grunt.
8. Is it pathognomonic of pneumonia?
9. Quotations from Seibert, Christopher, Holt, and Henoch.
10. Masked cases of pneumonia.
11. The importance of the pneumonic grunt in these cases.
12. Treatment
 1. To make the child comfortable.
 2. External applications to the chest, their use and abuse.
 3. The value of the hot mustard bath.
 4. Expectorants.
 5. Liquor Ammonii Anisati.
 6. Fever.
 7. Oxygen.
 8. Inhalations.

2. The Necessity for Periodical Examinations in the Apparently Healthy

ALEXANDER MCKENZIE CAMPBELL,
Grand Rapids.

SECTION ON SURGERY, OPHTHALMOLOGY AND OTOTOLOGY

Chairman—D. EMMETT WELSH, Grand Rapids.

Secretary—JOHN W. MOORE, Atlantic Mine.

FIRST DAY, WEDNESDAY, MAY 25th

1.30 P. M. STANDARD

1. Removal of Second and Third Division of the Fifth Pair of Nerves after Emergence from the Skull, showing as good results as from removal of the Casserian Ganglion. This operation is much less difficult to perform, not dangerous and with slight deformity of the face

WILLIAM FULLER, Grand Rapids.

2. Treatment of Intestinal Fistulas by the Elastic Ligature

THEODORE A. MCGRAW, Detroit.

3. Myelitis Complicating Cancer of the Breast. Report of a case

F. B. WALKER, Detroit.

This subject suggested by the unusual course and unfortunate result of surgical treatment for cancer of breast. History of case before, during and after operation. Myelitis from this cause rare. Usual causes, course and treatment. The need for more exact data for earlier diagnoses of malignant growths.

4. The Treatment of Compound Fractures

A. I. LAWBAUGH, Calumet.

In the treatment of compound fractures it must be borne in mind that we are dealing with a lacerated and infected wound of delicate tissues.

Rigid asepsis and immobilization. — Thorough cleansing of the whole wound area, by scrubbing with soap, and irrigation with mild antiseptic fluids.

All bleeding points must be controlled. — All divided muscles, periosteum, tendons and nerves must be united by suture.

Efficient drainage must be provided in the most dependent part. The wound then closed and the parts immobilized by some form of fixed dressing which gives comfort to the patient.

2. Report of a Case of Cellulitis of Arm and Forearm

I. D. LOREE, Ann Arbor.

Cause, duration and treatment. Pathology—Condition corresponding to Phlegmonous Erysipelas of older texts. Palliative and radical treatment both early and modern. Necessity of early intervention.

3. Diabetic Gangrene

STUART E. GALBRAITH, Pontiac.

Etiology, symptoms and treatment. Consideration of indications for surgical treatment. When should operation be performed? Prognosis, sequelae of operations.

4. Cancer of the Rectum. Report of cases

J. A. MACMILLAN, Detroit.

Comparative ease and tremendous importance of early diagnosis. Requisites of early diagnosis.

1. Frequent rectal examinations.
2. Thorough examinations.
3. Indications for thorough examination of the rectum.
4. Methods of examinations
 1. Digital examination.
 2. Anascope, Proctoscope. Fenestrated anascope.
 3. Microscopic examination of portions of detached tissue.
5. Treatment—Objects
 1. Relief of suffering.
 2. Prolongation of life.
 - (1) A large percentage of these patients should have the benefit of a radical operation and in many cases this operation is not necessarily formidable.
 - (2) Palliative measures
 1. Colostomy.
 2. Curretage.
 3. Cutting sphincture.
 4. Opium, etc.
6. Report of cases.

5. Some Diseases of the Rectum, and the Treatment

C. G. DARLING, Ann Arbor.

6. Primary Carcinoma of the Ureter. Report of a case

WM. F. METCALF, Detroit.

Etiology. Pathology. Diagnosis. Prophylaxis, report of the case. Other cases in the literature.

7. Chronic Suppurative Otitis Media, its Importance and Treatment

DON M. CAMPBELL, Detroit.

An important disease from the standpoint of expectancy of life as well as interference with the special sense of hearing and the comfort and usefulness of the individual. Treatment—Medicinal—Surgical—Cases—Conclusions.

8. History of the Mastoid and Radical Operation on the Middle Ear, with Demonstration of Anatomical Specimens

EMIL AMBERG, Detroit.

Surgical interference in the middle ear suppuration may be dated from the year 1782. Since about four decades surgical interference was re-established and

5. Combined Use of Plaster of Paris and Elastic Traction in Deformities of the Feet

C. B. NANCREDE, Ann Arbor.

The advantages of forcible correction and fixation with plaster of Paris in club feet is conceded by all, and also that this method can be employed before permanent apparatus is either applicable or desirable.

Elastic traction efficiently applied can overcome deformities which cannot otherwise be so quickly, painlessly and cheaply effected—hence an effective combination of both plans is desirable. Much less cutting is requisite than in the "Phelps" operation and osteotomy can often be avoided by this combination of methods, the elastic traction completing the reposition while the wound is healing. This method is always available, no skilled mechanic being necessary.

6. Operations Upon the Prostate

E. B. SMITH, Detroit.

7. Operation for the Removal of Triangular Depressed Fracture of Left Parietal Bone, Upper Middle Border (Recovery)

W. EARLE CHAPMAN, Cheboygan.

History of patient.

1. Age.
2. Family history.
3. Personal history.
 1. Development.
 2. Education.
 3. Mental condition.
- Injury.
 1. Treatment medicinal.
 2. Operation.
 3. Subsequent treatment.
- Result.
 1. Mental.
 2. Physical.
 3. Psychic.

SECOND DAY, THURSDAY, MAY 26th

1.30 P. M. STANDARD

1. Differential Diagnosis of Conditions Simulating Appendicitis

L. J. HIRSCHMAN, Detroit.

A discussion of the symptoms of those diseases which are not infrequently confused with appendicitis, and incorrectly diagnosed as such. The symptoms common to various abdominal diseased conditions, with especial attention to points of differentiation, are emphasized. Method of abdominal examination personally pursued.

based on a more thorough scientific foundation. Schwartz of Halle is the most prominent pioneer. Then the so called radical operation was added to the Mastoid operation. Difference of the two methods. When is a Mastoid operation indicated? When is a radical operation indicated? Why is it not only more safe but frequently absolutely necessary to open the Mastoid early? The operation is more simple, the dangers are less great, recovery quicker. What can the general practitioner do from the standpoint of prophylaxis and from the standpoint of treatment? Anatomical specimens illustrating the remarks.

THIRD DAY, FRIDAY, MAY 27th

1.30 P. M. STANDARD

Election of Chairman and Orator of Section.

1. The Advantages of Early Operation in Hip Joint Disease

E. C. TAYLOR, Jackson.

2. Congenital Dislocation of Hip. Reduction by Lorenz Method

ANGUS McLEAN, Detroit.

Etiology, presentation of symptoms, most suitable period of reduction. Bloodless method of treatment. Skiagraphs showing position of head of Femur before and after treatment.

3. The Closure of Wounds

H. W. YATES, Detroit.

The skin can not be made aseptic and therefore needles carried through it distribute bacteria in their path. All wounds should be closed with as little injury to them as possible; the edges should be coapted but not drawn taut. In a majority of the ordinary accidental wounds and a fairly representative number of operation wounds, suitable closure can be made by the use of adhesive plaster strips. The fewer stitches through the skin the less infection do we have.

4. Interpretation of Radiographs

PRESTON M. HICKEY, Detroit.

Subject to be considered from two standpoints.

1. The excellence of the radiograph.
2. The experience of the interpreter.

Definition of Radiograph: Physical laws involved in its production. Essentials of a technically good radiograph. Methods of examination of negatives. Training and experience of the one who interprets radiographs. Importance of understanding radiographic anatomy. Errors may also arise from preconceived ideas. Utility of stereoscopic images.

5. Amblyopia from Methyl Alcohol Used Cosmetically

DANIEL CONBOY, Bad Axe.

Literature on Methyl alcohol amblyopia is recent. Dangers in use of patent medicines and similar mixtures containing inferior and cheap alcohols. Previous cases of wood alcohol blindness due to drinking or inhaling same in confined space. Present case due to its use to cut the "oiliness" of face and remove blemishes. Vertigo and almost total blindness occurred. Immediate diagnosis of toxic origin made from symptoms. Removal of cause and treatment leads to recovery in six weeks.

6. Adventurers in Surgery

C. T. NEWKIRK, Bay City.

7. Tracheotomy

J. A. HEASLEY, Grand Rapids.

Foreign bodies are drawn into the trachea by suction. Different location of foreign bodies in the trachea. The different kinds of foreign bodies in the trachea. Method of making diagnosis of foreign body in the trachea and bronchi.

Characteristic symptoms by which we are able to make a differential diagnosis between foreign bodies in the trachea and oesophagus. How to know the exact location of a foreign body. Method of operating for foreign body with a special reference to the extremely low operation and lodgement in the bronchi.

8. Postoperative Exophthalmic Goitre. Report of a case

S. EDWARD SANDERSON, Detroit.

SECTION ON OBSTETRICS AND GYNECOLOGY

Chairman—J. S. GRISWOLD, Big Rapids.

Secretary—FLORENCE HUSON, Detroit.

FIRST DAY, WEDNESDAY, MAY 25th

1.30 P. M. STANDARD

1. The Operative Treatment of Cystocele and Prolapsed Uteri

JOHN N. BELL, Detroit.

The cause of failure in superficial denudation and transverse, antero-posterior, or purse-string approximation of the denuded areas. The sound anatomical and surgical principles underlying the successful operative repair of cystocele and prolapsed uterus. A brief description of the operation and report of cases.

2. A Case of Malformation of the Internal Genitals with the Reproductive Glands in the Labia Majora

CHARLES L. PATTON, Ann Arbor.

3. A Report of a Case of Epithelioma of the Vulva

A. C. REED, Ann Arbor.

4. Dysmenorrhœa

JEANNE E. SOLIS, Ann Arbor.

Clinical history of a number of cases to illustrate the subject. Etiological and pathological consideration of same.

Treatment—General and local and especially that by means of electricity.

5. A Plea for Early Trachelorrhaphy

T. S. SANDS, Battle Creek.

When we realize that the great majority of chronic ailments of women are the result of neglected lacerations of the cervix and 75 per cent. of malignant growths of uterus are the result of same cause, I feel justified in calling your attention to this common, yet all important condition. By the term early trachelorrhaphy I do not mean immediate repair of cervix, which I think is unwise and dangerous unless demanded to prevent serious hemorrhage.

6. A Report of Five Cases of Sarcoma of the Uterus
RALPH L. MORSE, Ann Arbor.

7. Chorio-Epithelioma Malignum. Report of case
W. F. METCALF, Detroit.

Diagnosis—Gross and microscopical appearances. General symptoms: Anæmia, etc. Differential Hydatidiform mole. Retained placental remnants. Fibroids. Polypi. Cancer.

Treatment—Preliminary to certain diagnosis. Hysterectomy, subsequent observations. Metastasis. Constitutional.

Treatment—The ideal way is to operate before rupture occurs. When rupture has occurred operate as soon as you can get some reaction from the shock and loss of blood.

Brief narration of six cases.

4. *Continued.*—Report of a Case of Extra-Uterine Pregnancy

GEORGE C. HAFFORD, Albion.

These cases not so much mentioned in text-books as formerly. Cases more rare than formerly. Reasons for. The great mystery of former times. Probably they will grow less in future.

5. Bright's Disease and Pregnancy.

W. H. SAWYER, Hillsdale.

5. *Continued.*—Cause and Treatment of Puerperal Eclampsia

A. N. COLLINS, Detroit.

Importance of subject.—Lack of appreciation of gravity of the condition. Causes unproven. Speculation upon causes. Danger signals. Prompt interference demanded if condition not permanently improved by treatment. Necessity of terminating pregnancy. Methods of treatment mechanical and medicinal. Great value of veratrum viridi. Conclusions.

6. Eclampsia and Vaginal Cesarean Section

J. H. CARSTENS, Detroit.

Mild attacks of eclampsia can be controlled by veratrum and other remedies until labor can be induced by slow methods.

Severe attacks occurring one after the other and threatening the life of the patient can be saved only by prompt delivery. This can best be done by vaginal cesarean section.

7. Clinical Cases.

J. G. LYNDS, Ann Arbor.

1. Fibroid tumor in a patient with absence of vagina and all internal organs except one rudimentary ovary.

2. Pseudohermaphrodite. Operation for formation of vagina, results:

3. Vaginismus. (A) Vaginismus with thick firm hymen. Conception without intromission. Labor. Cure. (B) Vaginismus. Vulva normal. Conception without intromission, labor at term. Vaginismus unchanged.

SECOND DAY, THURSDAY, MAY 26th

1.30 P. M. STANDARD

1. Pregnancy; Hygiene of Pregnancy; Mechanism and Management of Labor

FRANK H. WEAVER, Charlotte.

2. Injuries of the Parturient Canal Due to Child-birth, their Causation, Diagnosis and Treatment

JAMES E. DAVIS, Detroit.

Introduction—The facts relative to the pathological findings suggest unmistakably a preventive etiology.

Argument—Enumeration of avoidable and unavoidable lesions, the prevention of the former and the care of the latter. The obstetrician should be prepared to make necessary repairs during the early puerperium. The preparation for such repair work outlined. Objections considered.

Conclusions—The obstetrician has limited his science and art. The reputation of the obstetrician and the rights of the patient demand the recognition and complete immediate repair of lesions resulting to the parturient canal at the early part of the puerperium.

3. The Use of Rubber Gloves as a Prophylaxis in Obstetrics.

F. J. W. MAGUIRE, Detroit.

The paper will contain bacteriological research work made from cultures taken from writer's hands, also the reports of over one hundred cases of instrumental delivery in which the patients were protected by the use of rubber gloves.

4. Ectopic Pregnancy

MORTIMER WILLSON, Port Huron.

By ectopic pregnancy we understand pregnancy in which the ovum is anchored and develops to a greater or less degree at some place outside of the uterine cavity. This place may be in the tube within the uterine wall, the tube proper, the ovary, or the peritoneal cavity.

Etiology—Stenosis of tube sacculcation or rugosity of its lining, adhesions causing rending of the tube with stenosis, adhesions of the fimbriae preventing normal action.

Course of development of foetus. Varying according to nutriment and environment

Symptoms—Variation in menses, breasts, shedding uterine casts.

Diagnosis—To be made from symptoms and physical examination.

THIRD DAY, FRIDAY, MAY 27th

1.30 P. M. STANDARD

Election of Chairman and Orator of Section.

1. Hysteria; Its Relation to Obstetrics and Gynecology GEO. F. BUTLER, Alma Sanitarium.

There should be a distinction between hysteria and hysteroid states. The first is a psychic instability affecting the central nervous system, removing the checks on the local innervation of structures and organs whereby they acquire undue action. This increased activity is followed by local exhaustion and perchance secondary local morbid states which persist after the hysteric explosion has disappeared

These conditions affect the organs of nutrition, oxidation, and elimination as well as the genitalia. Disorders of these organs through emotional exaltation and secondary depression often produce nerve tire and auto-intoxication with hysterical results.

Removal of the genital morbid state removes a predisposing and continuing etiologic factor, but does not remove the more important secondary etiologic factors—nerve tire and auto-intoxication which it has set into action, hence gynecology will not suffice.

Pregnancy being a new factor introduced into an organism which disturbs the physiologic balance hitherto existing is, according to Virchow's definition of pathology, a pathologic, but nosologic state considered from the standpoint of the mother. As it involves early undue assimilation and later under elimination it sets up nerve tire and auto-intoxication, hence its frequent hysteroid aspect.

Grafted on a degenerative or neural enfeebled organism from involution, traumatism, essential fevers, auto-intoxication, etc., it often upsets the feeble nervous balance and produces the hysterical constitution.

2. Physiologic Therapeutics in Gynecology

J. H. KELLOGG, Battle Creek.

There is no branch of medicine in which the natural or medicinal agents, which are included under the general title "Physiologic Therapeutics," render greater service than in the special department of gynecology. Hydratic measures afford the most effective means for combatting acute and chronic pelvic inflammations, preparing patients for important surgical procedures, and bringing them to successful recovery after grave operations.

Massage, manual and mechanical Swedish movements, and various special forms of gymnastics are essential factors in the curative treatment of chronic pelvic congestions and displacements of pelvic viscera. Electrotherapy renders essential aid in the treatment of various circulatory disturbances, and painful disorders of the pelvic region. Phototherapy and thermotherapy are also capable of rendering valuable service in this class of disorders, accomplishing certain results which can not be so well secured in any other way. This paper endeavors to present in some detail the technique of the various methods by which the physiologic agents mentioned, and others, may be utilized in the various disorders the treatment of which is commonly referred to Gynecologists.

3. Infection of the Biliary Tract

H. W. LONGYEAR, Detroit.

Three vulnerable points in the peritoneal cavity through which pathogenic germs may enter, viz.: female genital tract, appendix vermiformis and biliary tract. Infection of biliary tract may be with or without gall stones. Severe symptoms occur as result of occlusion of ducts, either by inflammation or by mechanical means, when invaded by pathogenic germs. Mild symptoms, resembling malaria, occur without occlusion. Cause of fever in such cases often obscure.

Typhoid and colon bacillus most common form. Medication of use to allay cholangitis and to promote drainage. Incision and drainage usually necessary to radical cure. Complete disinfection of tract not practicable. Long continued drainage occasionally necessary.

An effective bile-fistula pad for collecting the bile and preventing the soiling of clothing and dressings.

4. The Diagnosis and Treatment of Intraligamentous Ovarian Cysts

ROLLAND L. PARMETER, Ann Arbor.

5. Renal Hematuria of Unexplained Origin. Report of a case with Cessation after Nephrotomy

BENJAMIN R. SCHENCK, Detroit.

6. Appendicitis. Personal Conclusions based upon Two Hundred Operative Cases

WM. BISHOP, Bay City.

Symptoms—Persistent localized tenderness the only constant symptom.

Diagnosis—Persistent localized tenderness the only symptom necessary for diagnosis.

Treatment—Persistent localized tenderness *always* an indication for immediate removal of the appendix vermiformis.

7. The Relation of the Appendix to Pelvic Disease, based upon a Clinical and Microscopical Study of Two Hundred Cases

REUBEN PETERSON, Ann Arbor.

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DELEGATES TO ANNUAL MEETING

Michigan State Medical Society, at Grand Rapids, May 25, 26 and 27, 1904

Delegate

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Schoolcraft	J. M. SATTLER, Manistique	G. M. LIVINGSTON, Manistique
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Wexford	E. B. BABCOCK, Kalkaska	S. C. MOORE, Cadillac

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V. C. VAUGHAN, Ann Arbor.

Two to be elected for two years.

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TIVE COUNCIL OF THE AMERICAN MEDICAL
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F. J. LEE, Grand Rapids.

ON LEGISLATION AND PUBLIC POLICY

W. H. SAWYER, Hillsdale, *Chairman*.

JAMES W. INCHES, Saint Clair.

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ON VITAL STATISTICS

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SCIENTIFIC EXHIBIT COMMITTEE FOR THE
MEETING OF 1904THADDEUS WALKER, Detroit, *Chairman*.

A. M. CAMPBELL, Grand Rapids.

A. W. CRANE, Kalamazoo.

P. M. HICKEY, Detroit.

A. S. WARTHIN, Ann Arbor.

SPECIAL COMMITTEES

TO SECURE DATA REGARDING PREVALENCE OF VENEREAL
DISEASES IN MICHIGANA. F. CARRIER, Detroit, *Chairman*.

RALPH H. SPENCER, Grand Rapids.

JAS. F. BREAKY, Ann Arbor.

TO PETITION THE LEGISLATURE FOR AN APPROPRIATION
FOR THE ESTABLISHMENT OF A PROPERLY EQUIPPED
SANITARIUM FOR THE TREATMENT OF THE
EARLY STAGES OF TUBERCULOSIS

B. D. HARISON, Sault Ste. Marie.

H. J. HARTZ, Detroit.

J. B. WHINERY, Grand Rapids.

BENJAMIN F. HORNER, Lake Odessa.

C. N. SOWERS, Benton Harbor.

MISCELLANEOUS

All meetings are held on Central Standard Time at the *St. Cecilia Building*, cor. Fulton and Barclay Streets.

The *Scientific Exhibit* will be found in the *St. Cecilia Building*.

The *Exhibits* will be found in the Ball Room, 2d Floor, *St. Cecilia Building*.

All meetings will be called to order promptly on time.

Each member in attendance shall enter his name in the Registration Book, indicating the County Society of which he is a member. *Please do not fail to register upon arrival at the St. Cecilia Building.*

Only members who are registered are entitled to vote.

The ballot box for the election of *President* will be found at the *St. Cecilia Building* at the place of the General Meetings. The polls close at 12 o'clock noon, Standard, May 27th.

BY-LAWS—CHAPTER III, SECTION 5.

All papers read before the Society shall be its property. Each paper read shall be deposited immediately with the Secretary, but the author may also publish the same in any reputable journal not published in this State, provided the printed article bears the statement that it was "read before the Michigan State Medical Society."

ENTERTAINMENT

The Profession of Grand Rapids will make ample provision for the comfort and entertainment of the visiting members.

May 24th, Evening.—Informal reception by Committee on Arrangements at the *Morton House*.

May 25th, 8 P. M. Standard, *St. Cecilia Building*.—Address, to be announced.

May 26th, 7.30 P. M. Standard, *St. Cecilia Building*.—"Appendicitis." *Dr. A. J. Ochsner*, Chicago. Discussion opened by *Drs. J. H. Carstens*, Detroit; *S. C. Graves*, Grand Rapids; *O. P. Barber*, Saginaw; *W. T. Dodge*, Big Rapids; and *Angus McLean*, Detroit.

9 P. M.—Reception to the members and ladies by the Kent County Medical Society at the *Pantlind*.

HOTELS

<i>Morton House (Headquarters)</i>	\$2.50 to \$3.50
(American Plan)	
<i>Fantlind Hotel (European Plan)</i>	1.50 to 3.50
<i>Livingston (American)</i>	2.50 to 3.50
<i>Cody</i> "	2.50 to 3.50
<i>Eagle Hotel</i> "	2.00 to 3.00

REDUCED RAILROAD RATES.

One and one-third fare for the round trip.

Excursion fares from all points in Michigan, except from points on the Grand Rapids Division of the Michigan Central Railroad, where upon validated certificates the rate of fare is $1\frac{1}{2}$ cents per mile for the return trip, have been granted for persons attending the meeting of the Michigan State Medical Society to be held at Grand Rapids, May 25th, 26th and 27th, upon the following conditions:

First. That one hundred or more persons, holding properly executed certificates of standard form, attend the meeting.

Second. Each person desiring the excursion rate must purchase a *first-class ticket to Grand Rapids* for which he or she will pay the regular tariff fare

of not less than 75 cents, and upon request, the *ticket agent* will issue a *printed certificate of purchase*.

Third. If through tickets cannot be procured at the starting point, parties will purchase to the nearest point where such through ticket can be obtained, and there purchase through to place of meeting, requesting a *Certificate from the Ticket Agent at the point where each purchase is made*.

Fourth. Tickets for the return journey will be sold by the Ticket Agent at the place of meeting at one-third the first-class limited fare only to those holding *Certificates signed by the Ticket Agent* at point where through ticket to place of meeting was purchased, countersigned by signature written in Ink by the Assistant Secretary of the Society, certifying that the holder has been regular in attendance at the meeting, and signed and stamped by the *Special Agent of the Michigan Passenger Association*.

Fifth. Tickets for return journey will be furnished only on Certificates procured not more than three days before the meeting assembles; no stop-over privileges being allowed on tickets sold at less than regular unlimited fares. *Certificates will not be honored unless presented within three days after the adjournment of the meeting.*

"No refund of fare can be expected because of failure of the parties to obtain Certificates."

A charge of 25 cents will be made at the meeting by Special Agent for each certificate issued by him.



Book Notices.

Under the charge of
RAY CONNOR.

SIMON'S CLINICAL DIAGNOSIS. A Manual of Diagnosis by Microscopic and Chemical Methods. For Students and Practitioners. By Charles E. Simon, M. D. New (fifth) edition, thoroughly revised and much enlarged. Octavo, 695 pages, 150 engravings, 22 colored plates. Cloth; \$4.00 net. Lea Brothers & Co., Philadelphia and New York, 1904.

Laboratory methods, as applied to practical medicine, are as yet in their infancy. Great things have already been accomplished and great strides made to transform medicine from an empiricism to an exact science. It is hard for those who left their preparatory studies behind thirty years ago to realize the revolution which has come over the teaching of the medical art. Then it was largely the personal instruction of the man who had gone through the mill; now there are a hundred and one methods, all of which must be learned and used as occasion offers. The realization of this by medical men is shown by the fact that this little book has run through four editions in less than twice as many years. It has grown from a modest little volume to a handsome and comparatively large one.

In this new edition, the section on the blood shows where the line of greatest development is. In order to cover the advances made in this one branch, sixty new pages have been added, as well as several colored plates. The principles, methods and applications of kryoscopy as applied, not only to the blood, but also to the urine, have been briefly and concisely outlined. The very recent work on trypanosomiasis is given a short mention and trypanosoma gambiense figured. The sections on the bacteriology and parasitology of the blood have been enlarged with articles on paratyphoid fever, gonococcus septicaemia, bubonic plague and spotted fever.

As befits the importance of the subjects, the bulk of the work is taken up with a consideration of the clinical examination of the blood and urine. Shorter chapters are devoted to the gastric contents, feces, sputum, etc. The work is in no sense a series of complete monographs on the subjects considered, and although many references to the literature are given, a complete bibliography is not aimed at. Such things as the diagnosis of tumors, uterine scrapings, skin parasites, etc., do not fall within the scope of the work.

The book is clearly and concisely written and well subdivided for quick reference. It appeals as well to those whose early training did not

include many laboratory methods as those who desire to refresh their memories and see what has been added in the last few years to the constantly growing mass of knowledge. The methods of work are not only given, but the significance of the result pointed out as far as may be. The press work is good and the excellent illustrations make a very attractive as well as useful book for all those interested in practical medicine.

CLINICAL LECTURES. Sir William R. Gowers, M. D., F. R. C. P., F. R. S., Hon. Fellow R. Coll. Phys., Ireland. Cloth, pp. 250. Price \$2.00. P. Blakiston's Son & Co., Philadelphia, 1904.

This volume is a collection of ten lectures, given by William R. Gowers, which have appeared in various medical journals from time to time. As is the case with all of this author's works, these essays show the thorough understanding and grasp the writer has of the subject on which he is writing.

The first two lectures, one on Subjective Visual Sensations, and the other on Subjective Sensations of Sound, are of especial interest to the ophthalmologist and otologist. In the first of these lectures are given some original drawings illustrating a few of the unusual visual sensations preceding an attack of migraine. The third and fourth lectures are on Abiotrophy. By this term the writer means a failure of nutrition from defective vitality. After speaking briefly of cutaneous abiotrophy, he takes up the various forms of abiotrophy of the nervous system which he classifies as follows: (1) Those which occur in early life, as early infantile form of progressive (central) muscular atrophy, spastic paralysis of adults, optic abiotrophy and Friedreich's ataxia; (2) Those which occur late in life as progressive (central) muscular atrophy and paralysis agitans; and (3) those which occur in middle life as toxic and toxic degenerative as illustrated by tabes dorsales and general paralysis of the insane. Muscular dystrophy is the example of abiotrophy of the muscular system.

Some interesting and rather uncommon manifestations of lead and arsenic poisoning are taken up in the fifth lecture. Syphilitic disease of the nervous system occupy the sixth and seventh lectures. Dr. Gowers divides the nervous system into: (1) nerve cells and their processes; (2) neuroglia, which separate and support nerve elements; (3) blood vessels, which penetrate and

permeate the centers, and (4) membranes which enclose and protect these. Now the last three are styled adventitial elements. Syphilis of the nervous system develops in these adventitial elements and produces symptoms for the most part through changes it causes in the nerve elements. These latter changes are simple and non-specific. The prognosis depends on the extent to which, after the removal of the specific disease, the simple processes on which the symptoms depend, can pass away. The eighth lecture is on Syringal Haemorrhage into the Spinal Cord, giving three cases as a means of illustration. The ninth lecture is on Myasthenia and Ophthalmoplegia with a diagnosis of the same. The tenth and last is on The Use of Drugs. This was delivered nearly nine years ago. Still it is quite as true to-day as when Dr. Gowers first gave it to the public.

The publishers have done their part of the work on this volume in a most satisfactory manner. The paper is good, the type is clear and distinct and the binding is somewhat out of the ordinary, at least for medical books.

G. L. C.

DISEASES OF WOMEN. By Alfred Lewis Galabin, Consulting Obstetric Surgeon to Guy's Hospital. 695 pages, 284 illustrations, sixth edition, much enlarged. P. Blakiston's Son & Co., Philadelphia.

The sixth edition of Galabin's *Diseases of Women* bears little resemblance to the former editions, so much has it been enlarged and improved. The text, which has been carefully edited, is good throughout, in places even masterful and there is no apparent effort to fill space, resulting in "padding" so evident in some recent works on gynecology.

The chapter on the physiology of menstruation is particularly good, as is that on the infections of the uterus.

Throughout the work, particular stress is laid on symptomatology and diagnosis. Due consideration is also given to the laboratory methods of examination. Local treatment is fully covered, but only the main points on the operative side are given. Thus in the chapter on Displacements of the Uterus, 15 pages are devoted to pessaries and nine to the operative treatment.

The aseptic technic advocated by the author is simple and for the most part consistent. We believe, however, that emphasis should be laid

upon the necessity of cleaning the patient as well as on sterilizing the instruments before catheterizing, and that few surgeons would agree with the author in advocating catheterization by touch alone.

One hundred and forty-nine new figures have been added, most of which are good illustrations of the points to be demonstrated. The microphotographs are perhaps as good as such cuts usually are, but they give little idea of the actual histologic specimen and have little value.

The index is poor, lessening the value of the work as one of reference.

On the whole the work is well written, the teachings are safe and it will continue to be a popular book with both students and practitioners.

B. R. S.

THE BLUES (SPLANCHNIC NEURASTHENIA). By Albert Abrams, A. M., M. D. (Heidelberg), F. R. M. S., with 27 illustrations. Pages 240. Price \$1.50. Cloth. E. B. Treat & Company, 241-243 West 23rd St., New York City. 1904.

This is a very attractive little book; made up of eight chapters and the appendix. Neurasthenia is taken up in a general sort of way in the first five chapters, while the last three are given over to the splanchnic form. The author considers the causes, symptoms and treatment of "The Blues" in these last three chapters. The physical methods which he uses for relieving the congestion of the abdominal veins and thus causing a cure of splanchnic neurasthenia, are as follows:

1. Massage of abdominal muscles.
 - a. Method of expulsion.
 - b. Respiratory method.
2. Exercises which strengthen the abdominal muscles.
3. Respiratory exercises.
4. Electricity to the abdomen (the doctor believes the sinusoidal current to be by far the most satisfactory).
5. Abdominal supporters.
6. Cold water.

The work of the publisher is well done. The blue binding is a nice little conceit on the part of E. B. Treat & Co., and is quite an appropriate covering for a book entitled "The Blues."

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Pathology of Some of the Diseases of the Pancreas.—A. W. Mayo Robson, in one of the Hunterian Lectures, goes into the pathology of pancreatic diseases in detail. It will be remembered that there are two excretory ducts to the pancreas, that of Wirsung, opening into the common duct at the Ampulla of Vater, and that of Santorini. This latter duct in more than ninety per cent. of the cases is either obstructed or opens into the duct of Wirsung. Hence the duct of Wirsung is the only one of importance.

Symptoms.—(a) Steatorrhoea or fatty stools is constant. It may be in fat droplets, as fatty acid crystals or as soap crystals. (b) Azotorrhoea or faulty digestion of albuminous foods. If azotorrhoea be associated with liporrhoea, pancreatic disease is likely. If in addition diabetes be present, it is extremely probable. If azotorrhoea and liporrhoea be associated with the "pancreatic reaction in the urine" (which detects the presence of glycerine in the circulation) pancreatic disease is certain. (c) dyspepsia, vomiting and emaciation are common but not characteristic.

Physical signs.—Tumor is often present in disease of the pancreas, but is suggestive only unless associated with the urine test. There is in this disease a tendency also to general hemorrhage. This is believed to be due to the rapid withdrawal of the lime salts from the blood. Glycosuria is not common and is of no diagnostic value, but if it exists along with the other symptoms recovery is impossible.

Two conditions are common: 1. Fat necrosis so often associated with pancreatic disease is the result of penetration of the fat splitting ferment into the tissues about the gland, or if extensive by continuity of tissue or through the lymphatics. 2. Large pancreatic hemorrhage. This may be due to (a) vascular disease, (b) injury to gland, (c) fatty degeneration, (d) fat necrosis, (e) disintegration of neoplasms, (f) inflammation of gland itself.

Mr. Robson believes that disease of the pancreas is not uncommon, that it is usually unrecognized, but that with the urinary reaction the

steatorrhoea and azotorrhoea we should be able to make a diagnosis.—(*The Lancet*, Mar. 19, 1904.)

Chemistry of Urine in Diseases of Pancreas.

—Cambridge (Arris and Gale Lecture) gives the results of his studies made with Robson on the urine in pancreatic disease. It is now admitted that the masses of free fatty acids or their combination with lime are directly derived from the fat of the affected part by fermentative action of the pancreatic secretion, and that the other constituent of the fat molecule—glycerine—is absorbed into the circulation. The study started with the supposition that there would be minute amounts of glycerine in the blood as a result of fat necrosis. Since the kidneys have selective power on abnormal constituents of the blood, he found the glycerine in the urine. To secure this he finally found two formulæ satisfactory. Glycerose is got when glycerine is heated with a mineral acid. He detected the glycerose with phenylhydrazin in form of sheaves or rosettes of golden yellow crystals. Sugar or albumin have to be removed (called method "a").

While this reaction is constant in pancreatic disease, other diseases where there was active tissue change also caused it, as cancer, etc. So he got a further isolating method (method "b"). The urine was treated with a solution of mercury perchloride and hydrochloric acid. After boiling, the solution is neutralized by lead carbonate, and then treated as in method "a." The following summary is arrived at: (1) If no crystals by either "a" or "b" the pancreas is not at fault. (2) If crystals got by "a" and not by "b," active inflammation of the pancreas is present and operation is indicated. If the inflammation is acute the crystal will dissolve in sulphuric acid in one-half minute. If it is chronic, it will take two or three minutes. (3.) If crystals are found in both methods, there may be (a) malignant disease of the pancreas, (b) a damaged pancreas from a previous pancreatitis, (c) some other disease than that of the pancreas, but then the crystals disappear more rapidly.—(*The Lancet*, Mar. 19, 1904.)

SURGERY.

Under the charge of

MAX BALLIN.

Intestinal Perforation in Typhoid Fever.—

This article is a splendid statistical report of 362 cases operated upon for typhoid perforation, by different surgeons from all parts of the globe. Perforations of the intestines occurred in $2\frac{1}{2}\%$ of eight thousand eight hundred and eighty-one (8,881) cases of typhoid fever, observed by different authors, in different countries. The male sex is more liable than the female sex to suffer from perforations, in the ratio of about 4 to 1. Of 286 cases where the stage of disease in which perforation occurred is known, only six times, (2%), did the perforation take place in the first week; 162 times (56.8%) in the second or third week, and 118 (41%) after the third week.

Perforation has been often observed in ambulatory and mild cases of typhoid. Of 271 cases, 236 showed single perforation, while in 35 it was multiple. The size of the perforation was mostly less than $\frac{1}{4}$ inch in diameter; in over 73% of the cases the lesion was found on the ileum within 12 inches of the cecum. In only 2.1% of the cases was the perforation more than three feet from the ileo-cecal valve. In 190 cases the colon was perforated seven times, (ascending colon, 5 times; transverse colon, once, and sigmoid flexure once).

Meckel's diverticulum was perforated three times; the vermiform appendix eight times. All of these perforations were undoubtedly of typhoid origin.

The symptoms of intestinal perforation are: Pain, usually of a stabbing nature, most frequently situated in the ileo-cecal region, but sometimes located in the bladder or penis; vomiting with the pain, followed by sweating, with fall of temperature—delirium—rigidity of abdominal muscles, especially of the right rectus muscle, rising pulse, facial expression (peritonitic face), and tenderness of abdomen. Dullness is a very uncertain sign. The examination of the blood shows a steadily rising leucocyte-count up to the time of perforation, but the question of blood counts in these cases is as yet not decided. The accurate observations are very few.

Differential diagnosis has most often to be made from hemorrhage. The passing of blood from the bowels, the pain usually absent in hemorrhage, will be important factors in deciding doubtful cases. It is to be borne in mind that hemorrhage may be associated with perforation.

Treatment of all patients suffering from intestinal perforation in typhoid fever should be by laparotomy and suture of the perforation. It may be confidently said that of those patients who die after the operation, very few deaths were hastened by the operation. Recovery without operation is a very great exception, only 14 cases being known all over the world. On the other hand, 16,000 perforations of the intestines due to typhoid fever occur annually in the United States alone. Of the 362 operated cases, reported in this paper, 94 or 26% recovered, and 268 or 74% died.

The prognosis will improve the earlier operations are resorted to. (*Annals of Surgery*, Jan. 1904. HARTE and ASHHURST).

Prostatomia Infrapubica.—Hensner reports a case of resection of the middle lobe of the prostate by the infra pubic route. The incision was made along the lower edge of the pubic arch, separating the suspensory ligament, the corpora cavernosa and the ischio-cavernous muscles. (This method seems to be much more complicated and more dangerous than the super pubic or the perineal routes and has no advantages over either.—Editor). (*Zentralblatt für Chirurgie*. 1904. No. 8. HENSNER).

Incontinence of Faeces.—A. Cause:

Incontinence of faeces can be classed, broadly speaking, into two groups:

1. Case in which the sphincter ani still retains some amount of power, but not sufficient to entirely close the anal orifice.
2. Case in which the sphincter ani is completely paralyzed as in many nervous diseases or where it has been entirely removed as after the operation for excision of the rectum.

B. Treatment:

In Group 1 it is conceivable that if by introducing paraffin into the submucous tissue on the inner surface of the sphincter, we narrow the lumen of the bowel at this situation and thereby diminish the work which the sphincter has to perform; even a weakened sphincter may be able finally to occlude the remaining lumen and so render the patient continent.

In Group 2 various methods have been tried to remedy this trouble. In two cases I have obtained great benefit from the submucous injection of paraffin into the lower portion of the rectum as originally suggested by Gersuny of Vienna in 1889. (*The Lancet*, March 12, 1904. A. H. BURGESS.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Sterility—A recent article on Sterility, by Horrocks, covers the subject in an excellent manner and contains many interesting points. The author first sets forth the conditions necessary for the successful production of a child, and then discusses each of these conditions. They are, (1) a living ovum, (2) one or more living spermatozoa, (3) the meeting and coalescence of these two, (4) a suitable place of meeting, (5) anchorage of the ovum, after impregnation, (6) healthy endometrium, (7) a uterus capable of developing until the child is viable.

Under (1) the author takes up age, the production of dead ova, the relation of obesity, the effects of foods and drugs and the results of interbreeding. (2) It is wrong to assume, as is usually done, that the defect is in the wife. (3) Probably 99% of all cases of sterility are due to something which prevents the ovum and spermatozoon from meeting. Gonorrhoeal salpingitis, leucorrhoea and frequent douching are among the most frequent causes. (4) The place of meeting must be above the cervix. There is no known case of the ovum developing in the cervical canal or vagina. (5) The mucosa of the uterus or tube provides the anchorage necessary for the development. (6) Endometritis is a prolific source of sterility. An undeveloped uterus may have an undeveloped and functionally imperfect endometrium. (7) Among the causes preventing the uterus from developing are myomata, inflammatory adhesions and abnormal positions. The ill and often lasting effects of the various methods of preventing conception, when discontinued are frequently the cause of subsequent sterility.

In the general treatment, the author mentions the advantages of a spare diet, physical exercise and changes of environment and climate. Alcohol and opiates are contraindicated. Local treatment for the various pathological conditions causing sterility are discussed at some length.—*Lancet*, Jan. 9, 1904).

Placental Transmission in Typhoid Fever.—Lynch reports a carefully studied case of typhoid during pregnancy, in which he was able to demonstrate placental transmission. The patient was a negress, aged 23, who on the twelfth day of a typical attack of typhoid fever aborted at the third month. The fetus was received into sterile towels, and the placenta not coming away, was later removed under chloroform anesthesia.

Laboratory examination showed the widal with the mother's blood positive on the eleventh day and typhoid bacilli were cultivated from the urine on the twelfth day. Blood cultures taken at three different times were sterile. Cultures from

the heart's blood of the fetus showed typhoid bacilli, which were agglutinated by the serum from a known case of typhoid but the widal test with the foetal blood was negative. Autopsy of the fetus showed no lesions.

Typhoid organisms could not be obtained from the placenta, which showed, however, numerous hemorrhagic infarcts. Inoculations from the lochia into bouillon showed typhoid bacilli in mixed culture.

The subjects of typhoid fever and pregnancy, and of placental transmission, are very fully discussed.—(*Johns Hopkins Hosp. Reports*, vol. x.)

Pulmonary Embolism and Phlegmasia Alba Dolens.—Sheldon reports two fatal cases of embolism in the pulmonary circulation occurring in the course of milk leg.

The first patient had a mild attack of phlebitis in the left leg, beginning on the 14th day after delivery. The onset of the pain in the leg was very sudden and was associated with tenderness and œdema, making the diagnosis evident. The patient was kept in bed and was progressing satisfactorily, when, on the 22nd day, she cried out suddenly, gasped for breath, became cyanotic and died.

The second fatal case was that of a multipara, whose delivery was followed by infection. The uterus was curetted on the 7th day. On the 16th, there was sudden pain, tenderness and swelling in the left leg, despite which the patient was moved a distance of 17 miles on a stretcher. The general and local condition seemed to improve until the 25th day, when she suddenly complained of dyspnoea, became cyanotic and died.

The pulse curve of Singer (abnormally high in proportion to the temperature) was not seen in these cases. In neither case was massage employed. Post-mortem examinations were not made, but the symptoms were sufficiently characteristic to allow of the diagnosis of embolism.—(*American Medicine*. March 26, 1904.)

Associated Tuberculosis and Carcinoma.—Wallart reports three rare cases of carcinoma and tuberculosis, appearing in the same uterus. In the first case, caseous tubercles, with giant cells, were found in curettings from an adenocarcinoma; in the second, the tubercles, were intimately associated with a cervical epithelioma; in the third, a tuberculosis nodule was found in the fundal mucous membrane of a uterus removed for cervical carcinoma.

The author believes that tuberculosis is a predisposing factor in the development of carcinoma and that the combination is not as rare as previously supposed.—(*Zeitsch. f. Geb. u. Gyn.* Bd. L Hft. 2.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Diabetes—Williamson divides his diabetic cases for therapeutic purposes into three groups: (a) the most severe form, in which the urine gives a brownish red coloration with perchloride of iron, and in which a rigid diet fails to arrest the sugar excretion; (b) cases of medium severity in which rigid diet also fails, but where the iron test is negative; (c) mild cases in which a rigid diet results in no sugar excretion and where the iron test is negative.

In the mild form, he withdraws for a time all carbohydrates, and then gradually adds them to the diet until just within the point at which sugar excretion would commence. In the medium form, a strict diet is tried for a time, but if the patient rapidly loses weight, a small amount of carbohydrate is given. In the most severe form, he always allows a little carbohydrate in the form of bread. Salicylate of sodium, and aspirin (acetyl salicylic acid) are distinctly beneficial, while not specific. The former, is given in peppermint water, commencing with ten grains three times a day, and increasing up to 15 grains, 3, 4, or 5 times a day if necessary. With large doses it is important to watch for toxic symptoms and discontinue the drug if these occur. Pure natural sodium salicylate is the best preparation. Aspirin is given in the same dosage and as often as the sodium salicylate, being given in a little water to which a drop of lemon juice is added.

Many other drugs have been used in the treatment, and it is probably that opium, morphine, codeia, sumbul, uranium nitrate, arsenic, and antipyrin have in certain cases some beneficial effect. An objection to the first three drugs is their constipating action, and this is especially undesirable in the most severe forms of the disease since constipation appears to predispose to the onset of coma. It is important, therefore, when these drugs are given that care should be taken to keep the bowels regular. In the cases denominated most severe, the alkaline treatment, bicarbonate of sodium in large doses is of some service in postponing the onset of coma. The dose should be steadily increased up to 2, 3, or 4 drachms or more daily. (WILLIAMSON, *London Lancet*, Jan. 23, 1904).

Diabetes—In the therapeutic treatment of this disease, Thompson considers cod-liver oil as the

most valuable, and then iron. He gives this latter in the form of the old fashioned Hooper's pills, the formula of which is

℞ Ferri sulph.2. or 3ss.
Pulv. Senne,
Pulv. Jalapae,
Pulv. Zingiberis,
Pot. bitart.aa .8 or gr. xii.
Ext. Gentianae, qs.,
M.—divide into pil. No. xxx.

Sig: One 3 times a day.

To secure speedy reduction in the amount of sugar excreted he gives antipyrin and sodium benzoate of each gm. j. (15 grains) 4 times a day; after a time substituting 1 gm. of aspirin (15 grains) with .65 gm. of bismuth salicylate (10 grains). In subacute cases, he uses:

Benzosolis3. gr. xlvij.
Sodii benzoatis16. 3ss.
Acid arsenosi065 gr. j.
Sodii salicylatis11. 3ij. gr. xlvij.
Div. in caps. No. xlvij.

Sig: Take an hour after meals and at night, or,

Sodii sulphocarbolicis8. 3ij.
Salicin4. 3j.
Phenacetin8. 3ij.
Ammonii benzoatis16. 3ss.
Div. in caps. No. xlvij.

Sig: Two one-half hour after meals.

To prevent tendency to constipation:

Sodii bicarb6. 3iss.
Sodii sulphatis8. 3ij.
Magnesi sulphatis8. 3ij.
Sodii salicylatis65 gr. x.

M.

Sig: To be taken in a glass of hot water at one time.

Alkalies hold a deserved place, but the free use of saline water tending to increase the waste of the system, should not be given to one losing flesh. In coma he uses prolonged intestinal irrigation with saline solution. (THOMPSON, *American Medicine*, Feb. 20, 1904.)

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

Removal of Warts, Moles and other Facial Blemishes.—Warts appear in children in great number as small papular, flat and soft, of the color of the skin; as the ordinary warts as seen upon the hands; as the filiform warts as found in abundance upon the neck; and as the senile warts of middle life and advanced age, when they appear as flat, brownish, blackish, oval, somewhat raised, rough excrescences.

The ordinary *seed warts* should be scraped off with the curette and the excoriated surface touched with pure carbolic or glacial acetic acid, or the saturated solution of salicylic acid in callodion. No scars will be left.

The *filiform warts* are snipped off with a pair of scissors close to the skin and the base touched with pure carbolic acid. If quickly done the operation is not painful.

The *senile wart* is best treated with a saturated solution of salicylic acid, except where there is a tendency to enlarge and a danger of becoming epitheliomatous, when it should be thoroughly curetted and the base cauterized with the nitrate of silver or treated with the arsenical paste or the chloride of zinc, as in the case of the epithelioma. The application of a mild ointment is worse than useless.

Naevi (birthmarks and moles) are vascular, pigmentary, hairy or fibrous, or mixed.

Vascular Naevi may be simple dilatations of capillaries (telangiectases), congenital or acquired (inappropriately called Spider-cancers), sometimes forming patches of varying shades of red, from pink to purple (portwine marks), or may take the form of vascular tumors (angioma cavernosum), usually found on the forehead of the infant near the antier fontonelle.

Pigmentary Naevi are of various shades of color from brown to black, sometimes infiltrated with long fine or coarse hair (*hairy naevi*).

The *fibrous naevus* is a fibroma, sessile or pedunculated, of the color of the skin or some shade of brown, most often seen on or near the nose, prominent excrescences from the size of a small pea to a small marble.

To remove all forms of *vascular naevi* there is in Dr. Jackson's experience nothing so rapid and brilliant as liquid air applied by means of a swab of absorbent cotton or by means of a

siphon bottle. The naevus is destroyed with one or two applications and with but little scarring, but the operation is painful and the liquid air cannot be readily obtained. Electrolysis is the next best because it is under the control of the operator, while caustics, acids and alkalis are not. In simple telangiectasis the vessels may be destroyed by passing a fine needle, such as is used for the destruction of superfluous hair, attached to the negative pole of a galvanic battery, into their course, using a current of about two milliamperes for about one-half minute. The vessels will shrink up and disappear.

In the so-called *spider cancer* it is only necessary to pass the needle into the middle prominent point and destroy it, when the dilated blood vessels will shrink up and disappear. The same may be done by touching the point with a drop of fuming nitric acid.

The *portwine mark* is most unsatisfactory to treat; as the vessels lie deep in the skin, it is impossible to destroy the naevus without destroying the skin. What it is aimed to do is to destroy as little of the skin as possible and to substitute for the red mark a delicate pink. This is best done by electrolysis. A number of punctures are made in lines at a distance of a sixteenth inch apart, with a current of 2 to 3 milliamperes for about a half minute in each place. The operation is slow and very tedious.

The *angioma cavernosum* of small and medium size can be destroyed most effectively by electrolysis and next best by touching it with fuming nitric acid.

The *pigmentary naevi*, the *hairy naevi* and the *fibrous naevi* are all best removed by electrolysis.

The *Xanthoma* is a small yellow patch which comes near the eyelid, usually appearing in groups, soft and velvety to the touch, with no subjected symptoms. These patches may be removed by electrolysis.

Superfluous hairs are still best removed by electrolysis. The use of the Roentgen rays is too uncertain and, as the exposures must be frequent and for some length of time, not without danger. (*The Journal of Cutaneous Diseases*, March, 1904. G. T. JACKSON.)

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Original Articles

OBLIGATIONS OF THE STATE TO CONSERVE LIFE AND HEALTH.*

WM. F. BREAKEY,
Ann Arbor.

I take this first opportunity to thank the Society for the very great honor conferred on me by an election to preside over its affairs for a year.

The good will of patients though inspired by gratitude for service is a pleasure, the partiality of friends is natural, and though not always unbiased is gratifying, but the confidence of one's fellow-workers is a satisfaction beyond price.

To be chosen without a competitor to succeed the long line of eminent physicians, who have filled this position with distinguished ability, is an honor I fully appreciate.

To assist in maintaining the high standard already achieved in the history of the Society and carrying it forward is an ambition worthy our best efforts.

I suggested that the program should make provision for the introduction of the President-elect, that he might make acknowledgements to the session at which he is elected.

You will learn through the House of Delegates, the Council, the Secretary-Treasurer and reports of Special Committees, much of the detail of the work of the Society during the year.

The duties of your presiding officer have been lessened by the systematic distribution of work by the present plan, by the work done by the Council, and by the efficient Secretary, who has labored with a zeal and devotion worthy all praise.

The work of reorganization so successfully carried forward under the administrations of the immediately preceding two years, left but a few counties not yet organized as branches.

Two new County Society organizations have been made and some additions to those already organized. The Secretary wrote me, May 7th, that the membership then exceeded the high water mark of 1903, (1653.)

But a small portion of the State remains as yet unaffiliated; and we have reason to expect that the entire State will soon be represented in this Society, and in the American Medical Association,

*The annual address of the President, delivered at the annual meeting of the Michigan State Medical Society, Grand Rapids, May 25, 1904.

with its delegates and flourishing branch Societies in every county.

It is not strange that some of the older members of the old Society, who had assisted in its organization and maintenance, and had become used to County Societies adapted to local conditions, should not at once be reconciled to the change. Many of them deserve much credit for having kept alive organizations of rational medicine under conditions of difficulty and discouragement, and medical science owes them and their fellows, everywhere, a great debt of gratitude. But I feel sure that we can trust the same devotion to the common professional welfare that characterized their earlier zeal, to see that, while the old County Society was independent in a way, it was also weak in being alone, and could exert but little influence upon medical affairs outside its own territory.

Nothing good need be, nor should be, left or lost, that is desired to carry from the old house into the new.

The advantages that come from uniform organization of the whole State, of which each County Branch is a co-equal part, must be evident. We will be in line, and well towards its head with other States.

Technical and other defects of new Constitution and By-Laws will doubtless appear. It would be remarkable if none were found, but provision is made for correction, if needed, and it is the part of wisdom to accept accomplished facts and to give the new order a fair trial and our best support.

It has sometimes been the custom in the address of the President to review the progress of medicine, but it would be presumptuous indeed to attempt to review the progress of modern medicine in one,

let alone all, its varied fields in the limits of a short address. Though, in a general way, we may be optimistic, it is when we look backward a half or a quarter of a century that the comparison of to-day shows progress in new fields added, and better cultivation, more scientific methods, and greater achievements in combating disease and prolonging life.

The sections will furnish us all that is practical of this, and while I should have preferred to discuss some subject pertaining to Dermatology, it has seemed to me that more good might be accomplished by a presentation of some views that have sketched themselves during observation of the work of the Society for many years, and which offer opportunity to consider some relations of the State and the profession of medicine and the value of organization. I have chosen a title under which I may group some ideas of public and professional duty; of delinquencies of both and of needs for improvement in methods and results.

After all it matters less what we say here than what we do in our various fields of work. We should be able to make good where we are known the claims we make here.

MEDICINE WIELDS TOO LITTLE INFLUENCE —THE STATE GIVES TOO LITTLE AID.

Every practitioner of many years' experience, as well as every sanitarian and every intelligent observing layman, must have been impressed with the disparity between the influence which the profession of medicine as a body, considering its numbers and ability, ought to exert on the public and on governmental affairs, and the amount of influence it actually does exert. On the other hand, the same observers must have remarked the difference between what the ideal great Com-

monwealth should do in caring for the physical being, promoting health and protecting its inhabitants against disease, and what it really does.

What the United States Does: The preamble of the constitution of the United States recites among its purposes: "To establish justice, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity."

To "promote the general welfare" and make the "blessings of liberty" an enjoyment, the United States Government now spends millions to protect the country against communicable disease.

"The Public Health and Marine Hospital service," which alone spends a million in round numbers, not only figuratively patrols our own shores and navigable inland waters, but, through the consular and other service, is in touch with the habitable world, so that the occurrence of a case of cholera, yellow fever or plague, is telegraphed across the continents and under the seas to and from the ends of the earth. Vessels with infectious diseases are not permitted to land, and immigration companies are careful to ship no patients who may have to be returned at their own expense.

The benefits of the war with Spain were not alone, or chiefly, the liberation and protection of Cuba by the military force, but the suppression in large measure and restriction of contagious disease in the West Indies through the work of the medical force in the army.

Much has been done by the State of Michigan for the promotion of public health. Chiefly through the educational influence of our excellent State Board of Health, one of the leaders of such boards and of which we are justly proud, Michigan has been a pioneer in State sanitary work.

We have boards of correction and charities for the care of the vicious and unfortunate; asylums for the mentally disordered, the blind and the deaf.

Primarily, medical science and professional sentiment was the leaven which generated the humane public opinion that led to the establishment of such boards, as well as boards of health.

The State seeks to provide for pure food, pure milk and pure water for food and drink. It enacts laws for the protection of domestic animals against both disease and cruelty.

While all this effort shows a recognition of the obligation of the State to conserve life and health, not enough from our view point is done to discharge this obligation, so long as a single life more could be saved or prolonged.

The value of a human life to the State has been variously estimated at from \$1500.00 to \$5000.00. Estimated at either figure, the value of the lives lost from communicable disease, and to a large extent preventable, would amount in the aggregate to many millions of dollars, while the loss to those dependent for support and for love and affection, cannot be estimated in dollars and cents. The permanent or long continued loss of health is even greater in its burden upon family and community than is death itself.

In military battles, orders are given to wound rather than to kill the enemy, as aside from the less murderous and more humane contest, a wounded man requires the care of one or more effective men, and weakens the opposing force so much more. So if there were no humane motive to save life and promote health, its commercial and business value would make it the highest duty to save and prolong it. This proposition is so obvious as not to need argument.

It is conceded that the commonwealth recognizes this obligation now, as it does the various other functions of civil government guaranteed in the constitution, as it makes and enforces law for the protection of civil, political and religious rights, and rights of property and of corporations. It is a common boast that all are equal before the law, and especially in a government of the people, the poorest and humblest individual may secure its protection with the same certainty as the rich and powerful, and that the protection of the law reaches everywhere. This may be true as to rights of property, but in sickness the poor are at a great disadvantage. They cannot command the resources that resist contagion at home, or escape from conditions and localities where it cannot be resisted, and they suffer accordingly and become centers for further spread of disease. This is an instance in which the strong arm of the State should reach out, not alone for the local but for the common good.

It is comparatively recent that civil governments, as such, have concerned themselves so much with the prevention of disease and the conservation of life.

Some communicable diseases, like the poor, we have always with us. In the ideal government we should have neither. But such conditions are doubtless too utopian to expect in this age. However, there is no reason why we should not approximate as near as possible to such perfection.

Vital statistics form a valuable part of the study of pathology. Death rates, when the census is trustworthy, furnish us the only data of relative mortality and furnish the basis for all investigation of facts, which determine the growth or decay of population and of all that consti-

tutes a state. Fortunately Michigan, since 1897, has a good system of registration of deaths. When the law for registration of births is amended, as we hope and expect it will be at the next session of the Legislature, our system of keeping track of population and prevalence of disease will be among the best.

In reply to an inquiry of the Department of State, a significant reply is made by the chief of division of vital statistics: "In regard to comparisons of states where sanitary measures have been carried out, with those where no such measures have been conducted, I presume that it will be extremely difficult, or impossible, to secure any data whatever, for the reason that the states or countries possessing no sanitary administration are not likely to have registration of vital statistics."

This I found evidently true, even in states with some sanitary administration. For the purpose of securing data, as nearly accurate as possible, and also making comparisons with other States, I addressed letters of inquiry to Departments of State and health authorities in twelve States about in the same parallel and with few exceptions of similar area and population with Michigan, inquiring, especially as to amounts expended by the State in restricting disease and promoting sanitation; and evidences of success in lowering the death rate and lessening the prevalence of communicable disease. The reply to these inquiries are instructive and significant, and by comparison show our State to advantage. And though they take me farther than I had intended, into the fields especially under the agency of Boards of Health, a consideration of them is logically pertinent to our discussion. It is the field of preventive medicine and sanitary science that we can hope

to most interest and aid the State. The statistical information furnished in some of these letters is very meager and of little value for ready reference. Though each has some commendable feature, some of them can give no tabulated evidence of lessening disease or death rate, though all believe of course that communicable disease has been restricted and the death rate lowered by reason of the work done by the state. I have room for but a few abstracts.

To the Ohio Society for the Prevention of Tuberculosis is due the credit of starting the movement for the establishment of state sanatoria in that State. The legislative committee of that society prepared a joint resolution for the creation of a state tuberculosis commission and secured its passage. The bill now pending before the house—having passed the senate—to establish a state sanitarium for the treatment of cases of incipient tuberculosis, was presented by this commission, appointed by the governor.*

The report of this commission is very full and contains a valuable collection of data, with reference to all conditions, such as altitude, climate, dryness, temperature, etc., in the state, and all facts bearing on the feasibility of successfully treating tuberculosis patients, within the State of Ohio. Most of the data contained in this report would apply with equal force to Michigan.

In Indiana the State Medical Society has taken up the subject of preventive medicine and consumption and has formed a league for the prevention of tuberculosis, and it is expected that the next Legislature in that State will pass such legislation as "we will present."

*This bill has since passed the House and been signed by the Governor and become a law.

Pennsylvania has no vital statistics, and while reporting but \$6,500 for current expenses, at the last session of its Legislature, \$50,000 was appropriated for two years to aid in suppressing smallpox and \$50,000 more for two years for general emergencies.

Typhoid fever has been very prevalent in Pennsylvania, the recent epidemic at Butler furnishing evidence of the enormous cost in life and health, of such disease unrestricted.

The Health Commission of New York now expends over \$100,000 annually, which includes maintenance of a cancer and antitoxin laboratory.

Minnesota has taken steps for a tuberculosis sanitarium to be under special commission and not under the board of health.

Iowa has had a state board since 1860, and while unable to give figures, is certain "it has been largely instrumental in preventing or restricting communicable diseases, and could have been much more effective if it had had a larger appropriation for its use. Through its efforts a great many preventive hospitals, perhaps in the majority of our county seats, have been erected and are used as detention hospitals for the care and treatment of communicable diseases.

"During the past winter an effort to have enacted a bill providing for the establishment of a sanitarium under the control of the State was defeated, but \$1000 was appropriated for the purpose of investigating as to the benefits of such an institution, the cost of erection and of maintenance, etc."

Iowa has a new registration law very similar to that of Michigan.

In Wisconsin a bill was introduced in the last Legislature for an appropriation

to establish a Hospital for Consumptives, but it failed to pass the Senate. A committee was appointed by the Legislature, however, to take the matter under advisement and report to next Legislature. The Committee was composed of some members of the Legislature as well as some representative citizens of the State.

In Missouri the subject of State Sanatoria for tuberculosis has been agitated, and the expectation is that one will be established.

The letter of Sec. S. W. Abbott, of the Massachusetts State Board, is so concise and gives so much of the information I desired, that I give it substantially as received: "The State Board of Health of Massachusetts was established by act of Legislature in 1869. The amount appropriated for its use in 1904 was as follows:

For general work of board..	\$23,000.00
For food and drug inspection.	12,500.00
For engineering work, inspection of water supplies, etc..	34,000.00
For examination of sewer outlets	7,500.00
For production of antitoxin and vaccine	8,000.00
For printing and binding reports	4,000.00
	<hr/>
	\$89,000.00

"The death rate from typhoid fever has diminished from 9.3 per 10,000 inhabitants in 1856 to 1.9 per 10,000 in 1901."

"Death rate of consumption from 40.8 per 10,000 in '56 to 17.5 in 1901."

"Death rate of diphtheria from 15.8 per 10,000 in '76 to 4.7 in 1901."

"We have several hospitals for consumptives in the State, public and private. The State established one in Rutland,

Mass., now in its eighth year, and capable of holding about 300 patients with present additions of new buildings."

"No data collected of trustworthy character as to syphilis."

Massachusetts has an area of 8,315 square miles and a population of 2,805,346, or 337 inhabitants to the square mile. Michigan has an area of 53,915 square miles and a population of 2,420,982, an average of 44 inhabitants to the square mile.

We are all more or less familiar with the excellent work of our own State Board. I present some extracts from valuable letters from Secretary Dr. Baker: "Michigan has done a good deal toward the restriction of the dangerous communicable diseases. The results of that work are very manifest in the lessened death rate, more especially in scarlet fever, diphtheria, consumption and typhoid fever, one diagram exhibiting graphically the very great reduction in the mortality rate from consumption in Michigan, since active efforts have been put forward for its restriction. It shows previously, for three decades, a death rate of 110 per 100,000 inhabitants. In the three years ending with 1902, the deaths averaged 83.5, or *24 per cent less than before the restrictive efforts were made*. I think this reduction is largely due to the action of the consumptives themselves, restricting the scattering of infected sputa. They are doing this because of the education which they have been receiving constantly since 1891. I think there is good reason to believe that tuberculosis is one of the easiest diseases to restrict. Experience seems to prove this."

"While much has been accomplished in Michigan, it has been done without

the powerful aid, which would have been afforded by hospitals for the dangerous communicable diseases. . . Other States have provided such hospitals, notably Massachusetts, in which marked success has followed."

"Since the reduction in the mortality rate from tuberculosis, pneumonia has recently come to be the most fatal communicable disease in Michigan. The State Board of Health has commenced efforts for its restriction."

"Commencing with 1904, the State Board of Health has added three diseases to the list concerning which it collects, from active general practice, information as to their prevalence. These three diseases are: syphilis, gonorrhœa and cancer. It has been a surprise to me to learn of their prevalence. After a time, it is probable that an effort will be made to lessen the prevalence of gonorrhœa and syphilis. The lessening of cancer must wait for further knowledge concerning its causation."

The average amounts drawn from the state treasury, per year, during the fiscal years 1901, 1902 and 1903, were as follows: By the State Fish Commission, \$34,000; by the State Prisons, \$130,000; by the State Courts, \$167,000; by the Agricultural College, \$165,000, or including the Experimental Stations and Farms, \$185,000; by the State Asylums, \$860,000.

We would not suggest lessening expenditures for these necessary and educational institutions. The figures are quoted to show the relative amounts expended by the State.

Sec. Baker writes:—"The State Board of Health is not now hampered, in the work assigned to it, by lack of appropriations. It is, therefore, not asking for any

increase for its own use. For many years, however, it has been asking for appropriations by the State for the establishment and maintenance of a hospital, or hospitals, for consumptives. There are two classes of consumptives, which it is believed it would be economy for the State to care for in hospitals or sanatoria:

(1st.) Incipient cases, or cases in the early stages, many of which could be promptly cured and then safely return to their occupations, instructed in the methods for the restriction and prevention of the disease.

(2nd.) Advanced cases of coughing consumptives, who are scattering the germs of the disease broadcast around the State, thereby endangering lives and involving immense money losses, which might all be stopped by their proper care in hospitals, where their comfort would be increased and the outlay by the people of the State would be very much less than if they are permitted to continue spreading the disease. . . . Public health work in Michigan has been hampered by lack of proper financial support in the localities throughout the State, by reason of there being no law for the creation of local funds for public health work in townships. . . This subject was put before the State Medical Society at its meeting in 1900, and a copy of the bill proposed at that time will be found on page 200 of the transactions for that year. I wish the State Society and the several County Societies could be sufficiently interested in the subject, to labor for the passage of such a law. If these Societies would earnestly take up the subject, I have no doubt such a law would be passed."

"I do not forget that the establishment of the State Board of Health and other important legislations for the public

health has been fostered by the State Medical Society." . . .

It is not to be supposed that those of our fellow citizens who are temporarily invested with the authority and responsibility of government deliberately permit preventable conditions which result in loss of health or life.

The awful holocaust in the Iroquois Theater in Chicago, with a loss of over 500 lives, served, at a sickening cost, to compel, throughout the whole country, better protection against fire in public buildings.

The Government of the State seeks to protect the public against danger to life in travel.

The grade crossing fatalities and other so-called accidents, that so endanger life, are largely preventable and at a cost far less than the lives sacrificed. These losses of limb or life, these mechanical tragedies are of a character to be understood by all, and the remedy, better architecture and engineering, is one of dollars and cents.

Epidemics of typhoid, such as the recent one at Butler, Pa., and at Cornell, in Ithaca, where over 500 cases occurred with 50 deaths, were both due to impure water.

At Stanford University and Palo Alto, Cal., over 150 cases occurred, all traced to one milk supply.

Such instances as these excite general interest, while they last and cause spasms of reform, but they can be determined and controlled only by skilled investigators, familiar with causes and phenomena of the disease and the best methods of arresting it.

Such calamitous results show what happens when outbreaks are not controlled properly.

An occasional case of smallpox excites a community and some times a whole State into a panic, in which civic officials, the public, and sometimes doctors, lose their heads and fail to show their faith in vaccination, disinfection and quarantine.

But while these cases, of rare occurrence and small aggregate mortality, so disturb us, we grow accustomed to the diseases of most constant prevalence and greatest fatality at our very doors. Most of them, if not wholly preventable, are at least amenable to methods of treatment, which greatly restrict their frequency and fatality.

The ideal medical science is preventive, the discovery of new facts and investigations of causes of disease.

Conservation of life and health is the highest work that the State can engage in. The provisions in the statutes for the protection of the people against dangers of travel, of occupations, show the recognition by the State of this responsibility. This protection against injuries it furnishes chiefly in compensation for damages secured through courts of law.

The vital statistics of the State show, that while the total death rate of the State for 1900, from all causes, was 33,778, the deaths from violence and accidents were but 1966 and the deaths from old age were but 674, deaths from pneumonia were 2843, deaths from general tuberculosis 2482, deaths from diphtheria 562, deaths from scarlet fever 196, deaths from smallpox 28. *Twenty per cent* of all these deaths were *under one year* and *twenty-eight per cent* were *under five*. And the deaths from communicable diseases are more than double the number from accident, violence and old age together.

It is true that this is a greatly lowered death rate in some diseases from 50 and 25 years ago, and this but proves what this great power of the state can do, when rightly applied, and it is a matter of state pride that Michigan is more liberal and enterprising than some of her sister States.

But this is not enough. What further, then, it may be asked, may the State do? And we answer: If this remarkable showing can be made with such limited resources, what might not be done if the State Boards were supported by the power of the State, with sufficient means to secure the most thorough sanitation. If competent local health officers could be induced to accept such positions, without too much pecuniary loss, and be supplied with means to investigate causes of disease and methods of treatment, a broader campaign of education should be attempted and the children and youth, as well as the adult population who constitute the State, and on whom rests the responsibility of government, may be instructed in the principles and practice of sanitation. Small county, or district, hospitals for the prompt care of acute contagious disease and larger sanatoria for the care of incipient stages of the more chronic conditions of tuberculosis, could be maintained.

The ideal state is one in which its inhabitants may have health at home and, if unavoidable illness comes, to recover at home. Not all patients can go away from home to seek health; most of them must stay where duty and necessity keep them, and one of the greatest needs of medicine of this day is to successfully treat patients at home. No climate is so good that unsanitary local conditions would not make it poor, and none so poor

that good sanitation will not make it better.

The Peninsular State, occupying a position between the great lakes, with more than a thousand miles of lake front, has a more equable climate than many of its sister states. Its whole area is more or less underlaid with strata holding in solution nearly all forms of medicinal salines easily procurable for those who want "mineral waters." There are practically no climatic diseases, so called, in Michigan.

Tuberculosis patients in the early stages recover in all climates and in all altitudes, from the sea level in Florida, and San Diego, California, to the Adirondacks, N. Y., Asheville in N. C., Colorado, or Sante Fe, N. M.

The power of the state, which has resulted in the diminished death rate from preventable sickness, has been exerted heretofore primarily and chiefly, and must hereafter be exerted, through the agency of the medical profession.

To secure the further reduction of this death rate, increased length of life, the removal of preventable and communicable causes of sickness and better care of infantile life, are among the obligations of the state; and are some of the tasks the state, aided by the science and the art of medicine, with all its accessories, should fit itself to accomplish.

It is a persistent campaign of education in hygiene and sanitation, and like the price of liberty, is eternal vigilance.

And here is the opportunity of medical science and art to show itself deserving the support of the state and able and ready to direct this great humane effort. Its advocates must be prepared to show that what we represent, as rational medicine, is the best obtainable in the age in

which we live, and covers everything known to be useful in combating and successfully arresting disease. They must show that medicine is not dogmatic or exclusive; that its practitioners are not restricted in the use of any means that will arrest disease and restore health; that its investigations and researches contribute to the public good and become alike the common property of the profession and of the state.

However interesting the study of the elemental sciences of medicine, its value will be judged by the world to which it appeals for support, by what its practiced art can do for the good of the race.

One of the most suggestive tables of vital statistics, showing the influence of restrictive measures on causes of death, may be found in the last published report of the English Registrar-General for the year 1901. Rates are given for quinquennial periods for the years 1866 to 1900 for England and Wales and the remarkable decline in such diseases as small-pox, scarlet fever, typhoid fever and phthisis may be contrasted with the stationary and increased rates from other causes not affected by sanitation.

One of the most remarkable facts bearing on modern sanitary efficiency is the extremely low rates of mortality that now occur in some of the larger modern cities, such as London and New York. In spite of the increasing population and increasing crowding of certain portions, the city death rates show a tendency to become lower, year after year, until they approach the mortality of the more favorably situated rural districts.

Under the lead and influence of the foremost men on public opinion, the State has already in successful opera-

tion, through its excellent Board of Health, control of sanitary and hygienic conditions of communities, of schools, factories, employees, vehicles of travel, disinfection, quarantine, etc.

The profession of medicine, so largely responsible for all this improvement over conditions obtaining a half, or even a quarter, of a century ago, to deserve continued confidence, must prove itself worthy to be trusted in the continued direction of intelligent public opinion, and of advising legislative and executive departments of the government.

THERE ARE NO SECTS IN SCIENCE.

Such a science of medicine and such a profession, to deserve support, must not only be learned, it must be broad, comprehensive, liberal, tolerant in non-essential particulars, that sacrifice no truth, and to be consistent must enlist and accept all practitioners to its ranks that will work under this banner. We cannot logically refuse membership to practitioners of medicine who have voluntarily abandoned the dogmatic, exclusive or unscientific methods of which we complained and put themselves on record in support of rational scientific medicine. But neither should we deceive ourselves by the idea that mere increase of numbers, without ability and merit, will make us strong as a society. The test should be qualification in scientific attainments and fitness in character.

To promote and safeguard its present efforts for public good, the State should control medical education and determine qualifications, not only of those who practice medicine in all its departments, and by every method, but of those who propose to study medicine; practically what the first medical act under territorial ad-

ministration provided for, and what the present Medical Practice Act seeks to do.

The practice of medicine is not limited to the administration of drugs.

A great step forward has been made within the past few years by the requirements of examination to determine fitness for practice. This will soon become uniform in states by reciprocity of examining boards. Thus the examining board of each State has power to secure the elevation of the standard of all. This practically is the logical position the State now holds, and to which it was urged by the profession, and chiefly through the agency of this Society. It is therefore incumbent on the Society to support the State in this laudable work.

The correspondence quoted, shows that the efforts to restrict communicable disease, and particularly tuberculosis, are active in various stages of progress in all these States, as they are in all the civilized world, by the establishment of sanatoria especially adapted to the care of such patients. Many other States have such institutions in active and successful operation. These not only cure incipient cases but educate patients who in turn instruct other patients.

The United States Government has two such sanatoria, one for the army at Fort Bayard, N. M., and the other for the Public Health and Marine Hospital service at Fort Stanton, N. M.

It is not to be supposed that Michigan, holding so advanced a position in general education, shall be behind in the education so essential to the well being of the State, in the development of a hardier race and the lowering of its death rate.

The effort is too large for private en-

terprise, or if attempted by private capital, it could only be made to "pay" in the sense in which capitalists make investments, by such charges as would place it out of the reach of the poor, who most need it.

If the State very properly seeks to reclaim waste land, cultivate forestry and maintain experimental stations in agriculture, how much more important to investigate causes and treatment of the most fatal diseases.

The popular fear that the segregation of tuberculosis patients will increase local infection is shown to be erroneous, that nurses and attendants, in well conducted sanatoria, almost never acquire the disease and people in the vicinity are in less danger than they would be by a single case without the particular care given in hospital.

Many facts and statistics could be given, but it is not my purpose to go into the question in detail.

We have a committee to report on the subject of petitioning the Legislature to establish sanatoria for the treatment of incipient tuberculosis. The committee will, I am sure, thoroughly consider the matter and present some proposition for your approval. My purpose is, rather, to show the need for united active co-operation on the part of the Society and the profession, to secure results asked for from the State. If it proves impracticable to secure at once a sanatorium, we should be prepared to advise the appointment, by the State, of a commission to investigate and report as to needs, feasibility, methods, plans, costs, etc.

We do not advocate paternal government to the extent of officious meddling with rights of those willing and able to

take care of themselves, nor to discourage individual effort on the ground that the State will do everything. Many of those who most need the care of the State have no other protector, and those who feel quite able to take care of themselves and their families find that their own care does not protect them against the negligence of others, whether in the exposure of travel or in home communities.

Not many years ago, in New York, an old woman, herself a criminal, became celebrated as "the mother of criminals." From her direct descendants and relatives, within two or three generations, in the neighborhood of 150 persons had been convicted of crimes, varying from larceny to murder, and were a constant menace to the peace and order of the state and a burden to its taxpayers.

Cases of infectious disease, the generations of which are short, are more dangerous and expensive than criminals.

The best crop a State can raise is one of healthy men and women, and it should be the duty of the State to secure, for this human crop, vigorous development and length of days.

These are but suggestive hints of a few of the ways in which the profession of medicine may aid the State, in part, to carry out its obligations to its inhabitants. They are not new ideas—most of them are old and trite, but they offer ground upon which the State and medicine can work together, to the mutual advantage of both. The essential condition, however, for the profession to secure respect and wield influence, is united, harmonious co-operation.

Surgeon General Wyman, speaking before a sanitary association on the attitude of the national government towards

sanitary science, forcibly illustrates this necessary condition. Substituting State for National Government and Legislature for Congress, his remarks apply not inaptly to Michigan and, doubtless, to other States. Substantially he said: "The complaint has been made that the State through its Legislature was more liberal towards medical and sanitary science in relations to the lower animals, than in its relations to human beings. But the representatives of the State say that the reason for apparent neglect of medical and sanitary science, as applied to human beings, is due to a lack of harmony among the special advocates of such measures. Legislative bodies have been confused by conflicting views of those interested and proper legislative action materially deferred. Hence the necessity of most careful consideration and unanimity of action on the part of those who seek to obtain legislative action in aid of medical science and practice. Hence the necessity of a united and well organized Society, which will include all the reputable practitioners of the State."

To be the chief agency of the State in the achievement of such beneficent purposes as the better conservation of health and life by the lessening of preventable disease, and bringing to maturity and ripened age some of the appalling number of lives now lost in infancy, will add to the honor of the profession of medicine and of this Society.

And the State, so celebrated for the fertility of its resources of soil and forest and mines, its navigable waters, its public institutions, its system of education, will deserve a renown beyond all it now enjoys, for having added to the length, the value, and the enjoyment of human life.

ABDOMINAL PAIN.*

H. E. RANDALL,
Lapeer.

The conspicuous trend of surgery during the last year has been to study more closely the clinical aspects of disease. It is undoubtedly true that technique has almost reached perfection, and the energy that has been put forth in inventing new instruments and operation is being expended in diagnosis. During the last few years it seems to me diagnosis has been neglected. Exploratory operation was advised to make a diagnosis. Several factors led to this condition. The symptoms of disease were raised to an entity by some of our separated brethren, which had a repelling effect on the regular profession. Another factor, I believe, that has led to a neglect of the study of symptoms, has been the influence of Virchow on modern medicine, and the more scientific methods of physical diagnosis have caused us to forget to study the clinical aspects of disease.

Luckily the pendulum has started back and we are commencing to appreciate the fact that pathologic conditions produce certain well defined symptoms. A diagnosis of diseases of the chest may be made by a physical examination alone, but in how many abdominal diseases could a diagnosis be made by mere physical examination, especially in the more acute conditions in which a timely diagnosis is imperative? In the chest you have practically three organs, in the abdomen you have about four times as many, yet our text books give from sixty (60) to three hundred (300) pages on the examination of the chest and the examination of the

abdomen is disposed of in about a dozen pages. A diagnosis of disease of the chest may be postponed, but many times a diagnosis in diseases of the abdomen must be made at once and proper measures instituted in order to save life.

Not every one becomes expert at palpation, but a close study of symptoms will bring one close to the truth if the history, character and location of symptoms are observed. Do not misunderstand me to say that physical examination of the abdomen is to be neglected or belittled, but what I do wish to impress is that we have been neglecting a field that carefully tilled will yield an abundant harvest of information.

Abdominal disease causes a patient to seek relief from one or more of the following:

1. Discomfort or pain, local or referred.
2. Abnormal increase or decrease in size, as in tumor; dropsy.
3. Absence or a modification of the excretions or secretions or some abnormal discharge.

But pain is usually the most prominent. It is foremost in the patient's mind and the one for which he seeks relief. This symptom to the physician may be "suggestive, characteristic or confirmatory" of a certain disease.

Before considering the character and location of pain, it will materially assist us if we remember that the nerves of the body are distributed lower than their origin in the spinal cord. It is of interest to know that the twelfth intercostal nerve supplies the skin of the gluteal region. "Furthermore, as the abdominal nerves are prolongations of the nerves which supply the

*Oration on Surgery delivered at the 39th Annual Meeting of the Michigan State Medical Society, Grand Rapids, May 26, 1904.

lower intercostal muscles, there is an intimate relationship with the movements of respiration. Moreover, these nerves are in intimate association with the nerves supplying the abdominal viscera through the thoracic, sympathetic ganglia, from which are derived the greater and lesser splanchnic nerves." This explains the limited respiration on the right side in cases of appendicitis and in inflammations of gall bladder. Head has shown that when a painful stimulus arises in an organ or tissue having a low degree of sensibility and nerve conveying, it is centrally in close connection with a tissue or organ having a much higher degree of sensibility, that this stimulus is felt in the part relatively more sensitive. All visceral pains are referred pains.

These points borne in mind explain many puzzling symptoms which are met with in both thoracic and abdominal disease.

It explains why many children, in commencing lung affection, have pain in the abdomen and how in other abdominal cases the pain is referred to the chest.

In every individual case we must always determine are the symptoms of "pain feigned, or are they voluntarily exaggerated, or is there deliberate deceit," or are they real. It must be remembered that patients describe symptoms according to their "imagination, vocabulary and experience." These points can be acquired only by bedside practice. But let us never forget that a hysterical patient may have genuine pain for which surgical means must be instituted.

It is important to know the exact location of the onset of pain and its character, whether it started in epigastric or cecal or umbilical, left inguinal or right, or left hypochondrial regions.

The location of a pain does not always accord with the point of tenderness. Referred sensitiveness as distinguished from referred pain is determined by experiment with a blunt and sharp instrument, such as a pin, and Head has published several plates in which these areas have been mapped out. The location of a pain and the point of sensitiveness are two entirely different things. For instance appendicitis may start with pain in stomach, but the sensitive point is over the appendix, or again there may be epigastric pain with the sensitive spot over the gall bladder. "Pain in the epigastrium should call for a careful examination of the sensitive spot over gall bladder, the same as pain in the lower bowels call for a careful examination of suspected disease of the appendix." When local pain and sensitiveness exist at same location we have one of the most important diagnostic means at our disposal.

Pain in the abdomen may be roughly divided in: (1) dull, heavy, continuous pains; (2) sharp, colicky or intermittent. Among the dull, heavy pains may be mentioned: The pain of tuberculous disease is a continuous, dull aching pain. Lucas says: "Pain in excess of pus indicates stone in kidney affection; pus in excess of pain, tuberculous pyelitis."

Dull pain in epigastrium suggests dyspepsia.

Dull pain over bowels suggests constipation.

Dull pain over liver suggests congestion of the liver.

Most benign tumors cause dull pain.

Another instance of dull pain is in enlargement of spleen.

A colicky pain is caused by some disorder in a hollow organ or tubular system. This type of pain is characteristic of an effort to expel something within.

The continuous pain is characteristic of disease of the mesoblastic tissue and follows the colicky pain, if not effectual in expelling what is foreign to its contents, as is seen when following renal hepatic, uterine, intestinal colic, etc. It denotes that wall of tubes have become affected with disease. Here we have the two types of pain combined.

The only exception to these facts is that acute pancreatitis resembles more intestinal colic than the dull heavy pain of hepatic disease. But even here the more pronounced collapse is suggestive, and on opening the abdomen the presence of fat necrosis readily made the diagnosis.

In neuralgia the course of the pain is over the abdominal nerves themselves. One slight touch intensifies the pain and there are usually the three sensitive spots, anteriorly, laterally and posteriorly. Bilateral pain suggests a spinal origin.

Local pain with local tenderness is one of the most important symptoms in abdominal diagnosis. So trustworthy is this that pain and tenderness over McBurney's point, especially with rigidity, is sufficient for an absolute diagnosis of appendicitis. Mayo Robson says that tenderness together with pain justifies a diagnosis of gall bladder disease. As Kehr has shown that jaundice is absent in about 90 per cent. of cases, it furnishes us a symptom on which we may safely base a diagnosis.

Local pain, with tenderness where both cover the same territory, is the most important and trustworthy symptom in diagnosing the more acute diseases.

The mode of onset of pain is suggestive. Among those coming on gradually are catarrhal appendicitis, cancer, ectopic pregnancy, gastric and duodenal ulcer, metritis and salpingitis. A pain comes on suddenly in appendicitis, gall stones, colic,

intussusception, twisting of bowels, twisting of pedicle of cysts, hernia and renal colic. If mesoblastic tissue is affected, as in catarrhal appendicitis, there may be the dull continuous pain, but in inflammation the pain is increased so that the patient goes to bed. Williams' Obstetrics says: "The diagnosis of tubal abortion or rupture should be made without hesitation whenever a patient who is believed to be pregnant has complained of pain in the lower part of abdomen and suddenly becomes faint, deathly pale, and sinks into a state of collapse. If the collapse becomes more profound and the temperature is subnormal, rupture has probably occurred. On the other hand, if rapid recovery ensues, the probabilities are that one has to deal with abortion and the subsequent formation of an hæmatocele settles the question."

A study of pain in acute appendicitis is important. I have always diagnosed perforation where there is sudden cessation of pain, the constitutional symptoms remaining the same. More gradual cessation of pain, constitutional symptoms remaining stationary or increasing, means gangrene. This brings us to those terrible cases occasionally seen in which there are little or no constitutional symptoms and no local symptoms—anæsthesia.

We saw a case a short time ago in which nothing was revealed by a careful examination by the attending physician, who was not called until the fourth day of sickness. He found no swelling, pain or tenderness over abdomen, except over front left kidney. Temperature 99, pulse 90. When seen the next morning he said he was better and physician found him pulseless and in profound shock and immediately diagnosed perforation somewhere in bowels. He was dead when I

reached him. Postmortem revealed the primary cause as appendicitis—gangrenous appendicitis with a general peritonitis.

It would be interesting to mention other phenomena in connection with pain as an abdominal symptom, but time will not permit. We might speak of gastric ulcer and its sharply localized tender spot. We might profitably spend an evening on the cylinical symptom of the gall bladder disease: How sometimes pain in gall stone may simulate hyper-acidity of stomach. How various diseases may simulate peritonitis. Intestinal colic may simulate peritonitis but the fever is lacking. How in ordinary tympanites we do not get the rigidity of the abdominal muscles and the previous history of dull pain with constipation. The pain of obstruction of bowels is colicky and intermittent in character; patient comparatively easy between attacks of pain. Pressure relieves the pain. When obstruction from hernia or invagination and so on cause peritonitis, or peritonitis causes obstruction of bowels, only a careful review of history of case will reveal the diagnosis. We might dwell on the rigidity of peritonitis—how the pain and tenderness is a guide to the extent of the disease.

If I have stimulated one to look more closely and perhaps a life saved thereby, I will feel that I have not taken your time in vain.

Dr. J. B. Murphy recently wrote: "The close study of the clinical manifestations of disease is becoming more apparent daily as well as the exact association of symptoms with definite pathologic changes. This is rapidly placing surgery in the role of prophylactor or extensive pathologic destruction rather than as scavenger of pathologic products."

It is said that in not over half of the recorded cases of intussusception, was a correct diagnosis made. In acute abdominal troubles ordinary physical examination will reveal but little and we must more diligently study the clinical picture. We should not depend on symptoms alone, as described by the patient. The subjective symptoms, the objective signs and physical examination must be fitted together.

Pain was given man not as a punishment but as a means of preservation. It not only warns of danger but points out, in a majority of cases, where that danger is if we but interpret it aright. Surgery will become more ideal as the timely diagnosis is made. The future of surgery is in the hands of the family physician, the general practitioner. The question is not always one of exact diagnosis, however desirable, but the question is, is it a surgical disease, and if so, do the symptoms justify a moment's delay? This many times may be more difficult to decide than it would be to perform the operation.

Some of the Causes of Failure to Obtain Proper Results in Gynecological Work.

1. Failure to properly investigate the conditions in each individual case.
2. Erroneous and incomplete diagnosis, resulting in failure to correct causes of trouble.
3. Defective aseptic and surgical technique, leading to adhesions from infective and exposed raw surfaces.
4. Failure to estimate the resistive power in individual cases. One class requires rapid work

and limited period of anesthesia, and the other class, painstaking work and perfect technique.

5. Failure to recognize that long standing cases of neurasthenia are rarely curable by surgical means.

6. Too much special study on one subject to the exclusion of proper consideration of other diseases.

7. Impatience on part of surgeon and patient for immediate results and meddlesome interference before nature has accommodated organs to the new conditions.—(*The Charlotte Medical Journal*, April, 1904, W. L. ROBINSON.)

FURTHER EXPERIENCE WITH STREPTOLYTIC (ANTISTREPTOCOCCIC) SERUM IN RHEUMATISM.*

GEORGE H. SHERMAN,
Detroit.

Over a year ago I read a paper before this Society on the use of Streptolytic (antistreptococcic) serum in the treatment of inflammatory rheumatism and now wish to review the results obtained in the 27 cases treated up to this time.

That inflammatory rheumatism is caused by a micrococcus is now generally admitted, but whether it is the streptococcus, diplococcus or an allied coccus growing in streptococcic chains having specific tendencies to produce rheumatism, is still under discussion by bacteriologic investigators.

The rationale of giving streptolytic serum in rheumatism before the exact nature of the germ which causes the disease has been determined, may be questioned by some, but it must be admitted that while exact technical knowledge is desirable when available, it is not always necessary to the obtaining of practical results. Dr. John W. Foss, in his report of cases of mixed infection in tuberculosis treated with streptolytic serum, says that "staphylococci decrease almost in the same ratio as streptococci." Others who have used this serum in mixed infections of tuberculosis have made the same observation. I have on two occasions had patients where microscopic examination showed diplococcic infections which promptly yielded to streptolytic serum. The streptococcus, staphylococcus, and diplococcus are allied germs, being similar in many respects while differing in

others, but these practical experiences tend to show that an effective serum produced by employing the streptococcus has an immunizing influence against all of them. If it should finally be demonstrated that rheumatism is caused by a specific germ similar to the streptococcus or diplococcus, but differing in that it does not produce suppuration and has a predilection for joint infections, is it not reasonable to suppose that an effective antistreptococcic serum may immunize against that germ as well as it does against staphylococci or diplococci? My experience with its use in treating articular rheumatism would certainly substantiate such an opinion. To obtain a comprehensive view of the results obtained it is necessary to consider the cases as they present themselves for treatment. Inflammatory rheumatism with the usual treatment is very liable to recur at irregular intervals and if the recurrence is often, with prolonged attacks, the case becomes chronic. Six of my cases gave a history of repeated attacks extending over a period of from six months to five years. They all gave a clear history of having had an acute attack of joint inflammation with fever, which confined them to bed during the first attack, and with subsequent attacks usually accompanied with some fever and much pain in the involved joints.

Three of these cases were entirely cured, two very much benefited, and in one case no results were obtained. One of the improved cases had been almost a constant sufferer for five years with

*Read before the Wayne County Medical Society, May 5, 1904.

knees, shoulder, wrist and finger-joints deformed, swollen and painful. She is now practically free from pain and her deformities are improving. The case in which no results were obtained tolerated the serum very badly. After taking a few doses it caused a fever and an urticaria, which made him quite sick. After the urticaria disappeared the serum was again used, but with no better result.

One case had repeated attacks of rheumatism over a period of 20 years. After having been treated with several courses of baths at Mt. Clemens and other places, dieting for years and taking all kinds of drugs known to the profession from the hands of competent physicians, she came under my care for treatment. She then had a rather acute attack with fever 101° and swelling in shoulder and elbow joints. After giving four doses of serum at three-day intervals she developed a general urticaria and was sick in bed a week. After the urticaria disappeared her rheumatism was much improved and continued to improve after that. She has felt better since she took the serum than she has at any time during the previous 20 years.

In these chronic cases the serum is not borne well, being very liable to produce a disagreeable urticaria. Ten c. c. of serum should be given as the initial dose and repeated at intervals of from two or three days until three or four doses have been administered. By this time there is usually considerable swelling and some itching over the site of the last injection, which indicates that a general urticaria is liable to appear. The serum treatment should then be discontinued for from one to two weeks, until all signs of urticaria have disappeared. If by this time

the rheumatic condition has not materially improved, one or two more doses should be given. This may produce another attack of the urticaria, which will again pass off if the serum is discontinued.

In these chronic cases, when they are once brought under the influence of the serum, one dose a month is enough to keep the influence up.

During these attacks of urticaria the patient usually suffers with considerable muscular pain and some fever. This condition can be much relieved by giving liberal doses of the salicylates.

Three cases have no history of an acute attack with inflamed joints, accompanied by fever, but were complaining of shifting pain in the muscles of arms and legs, and at times also pain in the joints. This condition had lapsed into a chronic state. None of these cases derived any benefit from the serum treatment. One of these cases was interesting in that it showed how much more serum some can take than others without producing a rash. She was determined to continue the treatment, until 18 doses had been given without any beneficial or reactive effect.

Three cases had some swelling of joints but no history of an acute attack of inflammation with fever. They were chronic, with enlargements of involved joints. Of these, one case was much improved. The other two derived no benefit.

Of the 15 acute cases, four were children. Of these one adult had a return of the disease, one year after the first attack, which promptly yielded after giving six doses of the serum. One child had a light attack of chorea following the rheumatism. All these cases made good

recoveries, sixteen days being the longest anyone was under the serum treatment. One case recovered in three days. Seven of these cases from the intense joint involvement and high fever promised to be unusually severe and prolonged, but after four or five days' treatment, showed marked improvement.

The serum treatment works best in the acute cases with the first attack, and the amount of serum required varies in proportion to the severity of the infection, as indicated by the temperature and extent of the inflamed parts.

Where the temperature is high and the joints very painful and swollen, 20 c. c. should be given as the initial dose, followed by daily injections of 10 c. c. until the rheumatic condition is well under control. This will usually take place about the fourth or fifth day. After this the injections should be given every second or third day for four or five more days. In milder cases the serum is not borne so well, producing an urticaria and fever, if the serum is pushed as hard as indicated in the more severe cases.

Where the fever is low, and the inflammation not intense, it is best to give 10 c. c. as the initial dose and repeat it every other day thereafter until indications of an approaching urticaria appear by the amount of swelling and itching at the point of the last injection.

Heart infection and its consequences is recognized as one of the serious complications following acute inflammatory rheumatism. Dr. McCrae (*American Medicine*, March, 1904, p. 164) in a statistical review of 270 cases in Osler's Clinic as to heart conditions, divides them into three groups, in which he places 38

per cent. as having normal heart sounds; 32 per cent. where there is certainty of an organic lesion, and the balance doubtful.

In all these cases no heart complications developed. This in my opinion can be explained on no other ground than that the serum treatment prevented heart infection.

Anemia, and the general debility which so often follows inflammatory rheumatism, did not appear in any of these cases.

From what experience I have had I think I am safe in predicting that where streptolytic serum is properly used in initial cases of acute inflammatory rheumatism, the lapse of the disease into a chronic condition from recurrences with joint deformities will be avoided and that heart complications following this disease will be a thing of the past.

The question of diagnosis and in what case to use the serum is very important. Simply having pain in one or more joints, with or without tenderness on pressure, is no evidence that the case is inflammatory rheumatism. The pain may be due to a neuritis, overwork of certain groups of muscles, sprains, concussion of joints and other causes. On the other hand, joint infections may be slight or severe, depending on the virulence of the invading organism and the resistance of the individual case infected. If we have a case with a painful tender joint, accompanied by an elevation of temperature, the indications are that we are dealing with an infection, and the serum treatment should be used.

This rule may be applied to chronic as well as acute cases but more experience is necessary to form any definite plan.

'SUBPHRENIC ABSCESS—WITH REPORT OF CASE.*

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Marquette.

Collections of pus under the diaphragm, although comparatively rare, are of sufficient frequency to require constant watchfulness on the part of the physician. This condition is of special interest from the standpoint of diagnosis, and in its varied forms it but too frequently evades the skill of the most careful diagnostician.

Suppurative inflammation in this locality is almost invariably secondary to inflammatory or malignant processes in neighboring organs. As practically all abdominal organs are in direct contact with the diaphragm, the diversity in causation becomes manifest. Aside from the direct extension of these processes, from abdominal organs this condition may arise from traumatism of the lower thoracic wall, from disease of the bony walls of the thorax, by extension from the lungs or pleura, through the lymphatics, as a part of a general suppurative peritonitis, or by the deposition of septic germs from the blood stream in pyæmia.

The abscess may occur at any point under the diaphragm, but is more frequently right sided. The location, as a rule, is determined by the origin, gastric or duodenal ulceration and appendicitis, the most frequent causes, giving rise to left and right-sided ulcerations, respectively. The pus may be either within the peritoneal cavity, circumscribed by adhesions, or outside of it, either behind or between its reflections. This relationship depends upon the path of the infecting agent, whether it is within the cavity

or outside of it, as in some retrocaecal and perinephritic abscesses. The chief point in this connection depends upon the natural firm union between the peritoneum and diaphragm resisting separation by the invading pus, which becomes apparent early, by pointing toward the lumbar region or by perforation of the diaphragm.

In size these abscesses vary greatly and as a rule the intra-peritoneal are much larger than the extra-peritoneal and are more easily recognized.

The contents consist of thick foetid pus and not infrequently gas, the latter resulting from the perforation of some hollow viscera or by decomposition of pus.

The development is at times delayed for weeks, or even months, after the original disease has subsided or been relieved by operative procedure. This fact is explained by the early migration of septic organisms, and their encapsulation in a latent state until such conditions arise as favor their development. The onset is usually sudden, but at times is so insidious as not to attract attention until a large accumulation has formed.

The symptoms of pus in this region must of necessity vary greatly with the original source of trouble and the location of the abscess, but there are a number of signs and symptoms common to all. Aside from the almost constant septic symptoms, indications of acute peritonitis in the upper abdomen are also usually present. These consist chiefly of pain, tenderness, vomiting and muscular rigidity, shortly followed by tympanites, with more or less complete paralysis of that part of the diaphragm involved. The

*Read before Marquette County Medical Society, March 15, 1904.

pain is intense, is increased by cough and respiratory movements, and is referred to either the epigastrium or hypochondriac region, or in right sided cases, to the right shoulder. Tenderness is marked, and aside from the upper abdomen, is usually present in the lower intercostal spaces of the affected side. Hiccough is often a very annoying and persistent symptom and a slight jaundice is not infrequently observed.

The physical signs presented depend upon the size and contents of the abscess. In the ordinary case, the bulging of the lower thoracic wall is marked and characteristic, and respiratory movements of the diaphragm are absent or diminished on the affected side, while respiration is shallow and costal. The intercostal spaces are not altered, and with intra-peritoneal collections on the right side, the liver is depressed. At times the pus formation may be anticipated by finding a friction rub in this location at the onset. Soon after this, flatness or dullness may appear on percussion over the area of relative liver dullness, and may gradually extend until in some cases it has been found as high as the second rib in front. The respiratory sounds above the area of dullness are well preserved and may even be heard for some distance below the dullness. Vocal fremitus is abolished, and the heart may be displaced. The presence of gas in the abscess cavity is indicated by a tympanitic area over the normal liver dullness with the patient in the recumbent position, which varies with changes in the patient's position. Succussion may also be elicited.

In the diagnosis of sub-diaphragmatic collections of pus, the previous history of the patient is of the utmost importance. With a previous history of disease of

the stomach, gall-bladder or appendix, or of acute inflammatory disease in any other part of the abdomen, followed by a slow convalescence, more or less marked signs of sepsis, and indications of fluid at the base of the lungs, this condition should be considered. It is impossible in a paper of this scope to consider all the factors which might enter into the diagnosis of this condition, so only a few of the more common will be considered. The differentiation from an empyema is the usual stumbling block, and the true condition is but too often discovered upon operation. In the consideration of these two conditions, the history is of the greatest importance, as empyema seldom occurs without previous symptoms referable to the lungs, while subphrenic abscess is as invariably without them, but has a history of previous abdominal trouble, while the severity of the symptoms is much less in the former than in the latter. The prominence of the side is almost pathognomonic, as it occupies a much lower position than could pus in the pleura. The intercostal spaces are not obliterated, as is often the case with empyema, and the displacement of the heart is less than in pleuritic effusions of like size. The liver is often greatly depressed in large subphrenic abscesses, which is seldom so in collections of fluid in the pleura. The upper border of the exudate into the free pleural cavity generally assumes a characteristic curve with concavity upward, and the dullness changes with change in the position of the patient, while in subphrenic abscess the upper limit is either a straight line or convex upward, and if no gas is present in the abscess cavity, the dullness does not alter with change of the patient's position. The respiratory murmur in pleuritic effusion

is seldom heard below the level of the fluid, and in empyema is usually feeble where found, while in the other condition it is distinctly heard some distance below the level of dullness and is clear in the compressed lung above. The transmission of diaphragmatic movements to the exploring needle in a subphrenic abscess, being in an opposite direction to that of one in the pleural cavity, has been lauded as pathognomonic, but unfortunately, in accumulations of any size, this organ fails to move. The application of the same principle has been claimed for the flow from the needle, the pus escaping in spurts during inspiration if below the diaphragm, and during expiration if above it. The diaphragmatic shadow is fully as uncertain.

The exploring needle affords the only positive means of confirming the diagnosis of pus, but often leads one astray as to its location. Pus from the needle, through the fourth or fifth interspace in the axillary line, is too apt to confirm one's suspicions of empyema in these cases. More complicated still does the case become when pus below the diaphragm is complicated by fluid in the pleura. Here again the history of the patient is of the greatest importance, and the free use of the needle may clear up the condition by obtaining fluids of different character from different punctures. Too much reliance must not be placed upon the history alone, as it is possible to get pleuritic effusion, after the same abdominal conditions, in which subphrenic collections might be suspected. The highly offensive odor of the pus from these abscesses should have some consideration in diagnosis, for, as a rule, that of empyema is without much odor. A localized empyema of the right side

is recognized from this condition with great difficulty, the diagnosis depending upon the points previously mentioned.

Gas in the abscess cavity frequently affords a good picture of pneumo-pyothorax. The differential points here to be considered are in the former, the previous history of abdominal symptoms and absence of thoracic, the limited displacement of the heart and absence of intercostal bulging, normal respiration under the clavical with abrupt change lower down to the amphoric and metallic sounds of pneumo-thorax, the latter sounds may be transmitted and heard loudest over the epigastrium. In pneumo-thorax the normal breath-sounds would not be heard in the upper part of the thorax.

Abscess of the liver is often impossible of differentiation. Microscopic examination of the pus obtained with the needle may show hepatic cells, or bile pigments may be demonstrated chemically. A history of amoebic dysentery would favor liver abscess, while appendicitis is more often followed by subphrenic abscess. As a rule, pain in the shoulder is more often associated with subphrenic involvement than with hepatic abscess, and the pus is less apt to be offensive in the latter. Paralysis of the diaphragm is not apt to be present with liver abscess unless the disease reaches the diaphragmatic surface and the pus of a tropical abscess is of a characteristic light chocolate color.

The prognosis is always grave and increases with the length of time the disease has existed. The general mortality of all cases in a large series, operated or not, was 56 per cent., while with the establishment of early drainage, this has been reduced to from 30 to 35 per cent. About 15 per cent. of the cases, if left to nature, drain themselves either through the tho-

racic wall or by perforation into a bronchus or some part of the alimentary canal.

The method of draining these abscesses varies with the location of the pus, and must be determined by the use of the exploring needle, unless a localized oedematous bulging is apparent, when this is incised in the most prominent part as an ordinary abscess. If the condition is preceded by previous abdominal disease, the seat of the primary trouble should be carefully examined, as not infrequently these accumulations are but extensions from a primary abscess cavity, and its drainage will suffice for both. When pus is obtained with the needle at no great depth at the sides of the thorax, the procedure of choice consists in separating the pleura from the surface of the diaphragm without entering the pleural cavity and reflecting it well beyond the proposed sight of incising the diaphragm. This is best accomplished by a resection of two to three inches of the ninth rib between the anterior or posterior axillary lines, or ninth and tenth ribs, if more room is needed. In the upper part of this wound the reflection of the pleura will be readily recognized, and its separation is usually accomplished without difficulty. The exact position of the pus beneath the diaphragm may again be determined by the needle, which is then used as a guide to the incision, which is made in the direction of its muscle fibres. If, after your resection, there is any doubt as to the existence of pus in the pleura, the needle is a safe method of settling the question. Should the pleural cavity be accidentally opened in the separation of the pleura, it should be tightly sutured and securely packed off in the upper part of the wound. The complementary pleural space is sometimes obliterated by

adhesions and the pleura is firmly adherent to the diaphragm. This, when present, affords the best protection to the pleural cavity, while the pus cavity may be entered without identification of structure and with the belief that an empyema has been drained. At times it is possible to drain abscesses through the wide attachment of the diaphragm at the side of the thorax without disturbing the pleura. The possibility of this, however, can only be determined after your resection. In deeply seated abscess, where pus is located under the dome and obtained with the needle only at depth, the transpleural route is usually resorted to. Here the resection is best made a rib higher, and by making firm upward pressure of the liver before incising the pleura, the parietal and diaphragmatic surfaces may be so closely approximated as to prevent the entrance of air into the cavity. The adjacent pleural surfaces are then carefully sutured, shutting off the pleural cavity, and the abscess opened through the diaphragm. If impossible to suture the parietal to the diaphragmatic pleura, properly placed packing will often suffice to protect the pleural cavity from infection. Exploratory laparotomy may at times be necessary to clear up the diagnosis, location and best means of draining obscure locations of pus in this region.

REPORT OF CASE.

On the evening of February 1st, last, I was called in consultation to see a little girl of nine years who had been suffering for some time from an obscure condition and was becoming greatly prostrated.

She had been a comparatively healthy child, without previous attacks of serious illness, but had complained occasionally for the past two or three months of distress in the stomach and slight pains

in the epigastrium. Upon January 17th, while on her way to church, she was taken suddenly with intense pain in the abdomen and vomiting. She returned home at once, and after a slight chill, developed considerable temperature. The pain was referred to the epigastrium and continued with such severity as to require opiates. The vomiting continued for four or five days before subsiding, and upon the second day of the illness a considerable showing of bright blood was noticed in the vomitus. The abdomen became intensely tender and rigid, with the development of tympanites on the second or third day. This subsided in about ten days, but the pain and rigidity continued. About this time the lower right thoracic wall became very tender and severe pain in the right shoulder was complained of. The temperature up to the time of seeing her had been fairly constant between 100 and 102½ and the skin was continuously dry throughout. There had been occasional coughing during the entire sickness, but nothing to attract special attention to the lungs.

When first seen, three weeks after the onset, I found the patient apparently suffering great pain. She was intensely restless, and much prostrated, and had been without rest for many nights. There was a temperature of 102, and a small, feeble pulse of 120. On exposing the chest, one was at once struck by the bulging of the entire right lower thoracic wall. The diaphragmatic movements on the right side were absent, but well marked on the left. Liver dullness extended about a finger's breadth below the costal margin, and the right abdominal muscles were rigid. There was marked tenderness throughout the upper abdomen and of the lower thoracic wall. Examination of the right chest showed rapid, shallow respiration in the upper part, with no

movement below. On percussion there was absolute dullness up to the lower border of the third rib in the mammary line, which gradually extended upward to the scapular spine behind. Over this area there were no breath-sounds and vocal fremitus was absent. The intercostal spaces were natural and there was no œdema of the skin. The provisional diagnosis was subphrenic abscess or empyema, the former more because of the peculiar low bulging of the side than from the really pathognomonic history, while the latter was considered possible as occurring secondary to some abdominal inflammatory condition, the intrathoracic symptoms being marked by the original trouble. Next morning, the exploring needle was introduced in the sixth space in the post axillary line, and thick, creamy pus obtained. This, together with dullness extending to upper limits of the thorax in the back, favored empyema, and as the patient was in a critical condition, I hastened to drain the side. A sub-periosteal resection of about two inches of the eighth rib was made, and the pleura deliberately opened through the intercostal space below. The result was a decided surprise by the escape of about a pint of very cloudy, bloody serum. The true condition was at once apparent and the diaphragm, bulging above the wound, was incised with the escape of fully a quart of most offensive thick, creamy pus. A double rubber drainage tube was inserted through the diaphragm and the patient put to bed. There was much shock in the patient's exhausted condition from opening the pleural cavity, and she gradually sank, and died of respiratory failure thirty-six hours after operation. No autopsy was permitted, but the primary cause was undoubtedly gastric ulcer, with perforation, followed by localized suppurative peritonitis in the sub-diaphragmatic space.

HYSTERIA—CERTAIN MANIFESTATIONS*

GUY L. CONNOR,

Detroit.

Hysteria is a very common and markedly wide spread disease. It manifests itself in varied ways and at times the diagnosis is difficult to make. Certain disturbances appear often in the skin of hysterical patients which may aid one in the diagnosis. These changes have a vaso-motor origin at least in part. While they are found associated with other morbid conditions, still they appear so frequently in cases with an hysterical diathesis that I wish to call your attention to them today. Before doing so, however, allow me to bring out very briefly certain of the salient points in the anatomy of the vaso-motor system.

There is an association of cells situated in the bulb, the so called vaso-motor center. These largely control certain cells which are located in the ventral horns and the lateral grey matter of the spinal cord (at various levels.) The axis cylinders of these last mentioned cells leave the spinal cord in the main through the anterior spinal roots, and run to the sympathetic ganglia through the white rami communicantes, where some terminate in arborizations around the ganglionic cells and others continue in their course, passing through the sympathetic cords and the rami efferentes to terminate in the prevertebral plexuses. The axis-cylinders of the ganglionic cells enter the anterior division of the spinal nerves through the grey rami communicantes. Some pass onward to the spinal cord, through the posterior primary divi-

sion of the spinal nerves, while others run distally in the anterior and posterior primary divisions of the same nerves and supply the vaso-motor fibres to the arteries of the body wall and limbs.

According to Thane, the great and small splanchnic nerves are formed by the union of the roots, given off by certain thoracic ganglia (5-10 and 9-10 perhaps). After perforating the diaphragm, they terminate in the semilunar ganglion, which is a part of the solar plexus. The branches of this plexus are very numerous and accompany the arteries to the principle viscera of the abdomen. The vaso-motor nerves for the arteries of the alimentary canal are found in the splanchnic nerves.

Möbius defines hysteria as "a state in which ideas control the body and produce morbid changes in its functions." One gets a very fair conception of this disease if to the above definition you add that of Gower's—namely: "Hysteria is a morbid state in which the primary derangement is in the higher cerebral centers, although the functions of the lower centers in the brain, spinal cord and sympathetic may be secondarily disordered."

The following vaso-motor disturbances are to be seen in the skin of many of the hysterical cases:—

1.—*Attacks of Pallor Extending Over the Body Surface.* These are parts of what has been called "Splanchnic Storms." They have their origin in emotional disturbances. The result is a sudden dilatation of the splanchnic vascular area, due probably to a temporary paraly-

*Read before Section on General Medicine at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 26, 1904.

sis of the splanchnic vaso-constrictor center. This is accompanied by a compensatory anemia of the skin, brain or both. Alternating often with these attacks of pallor are certain hysterical brain manifestations and flushings. It is not necessary for me to cite any cases illustrating this form as you have all met with them on many occasions.

2—*Attacks of Flushing or Flush Storms*:—These are also due to a vaso-motor neurosis. There is a sudden constriction of the splanchnic or thoracic vascular area, resulting in a dilatation of the vessels of the surface of the body. This sudden constriction of the splanchnic vessels is in most cases brought on by an emotional condition in the brain. How often have we all seen this condition in hysterical cases? It is an extremely unpleasant and annoying symptom and especially is it so when the attacks are frequent and persistent.

3—*Patches of Congestion, Localized, which Appear Suddenly and as Suddenly Disappear*.—They are due to an abnormal irritability of the peripheral vaso-motor centers. On the neck, just below the ears, is the most common location for these patches. As a rule they are localized to parts of the body usually pale. They are not raised above the surface of the skin. Under pressure they disappear, showing there is no exudation. Their outline is irregular and they terminate abruptly.

4—*Erythromelalgia*.—This consists in redness with swelling or congestion of the extremities, accompanied by pain and acroparæsthesia (tingling or numbness, pin and needle sensations in the extremities). Although its course is paroxysmal, it is more or less chronic in its duration.

There are in the main three causes of arterial hyperæmia:

(a)—Agencies which have a weakening or paralyzing effect on the involuntary muscular fibres of the middle coat of the arterioles, such as fatigue or cold (prolonged).

(b)—Paralysis of the vaso-constrictor fibres.

(c)—Excitation of the vaso-dilator fibres.

Erythromelalgia is probably due in part at least to (b).

In Savill's series of 45 cases, 39 showed either evidence or gave a history of hysterical manifestations. Erythromelalgia can be put down as an expression of a vaso-motor neurosis plus, a toxæmia in varying proportions.

5—*Dermatographia*.—If one draws over the skin some blunt article like the end of a match, in a certain number of cases a line of congestion will follow the course of the blunt article. By some this is regarded as a stigma of hysteria, by others as toxic. It is probably true that this condition indicates the presence of a toxæmia, which very often has a gastrointestinal origin or some other cause of irritability of the nervous system.

6—*Exudative Skin Conditions*.—There are three varieties: urticarial, erythematous and hæmorrhagic. They may be produced by a toxic state of the blood, by neuro-vascular and emotional influences or by the combination of the two.

Urticaria is due to auto-intoxication, arising from the alimentary canal in a large proportion of cases. It may, however, be caused by emotion without any gastric disturbance. Wright reported a case of a young surgeon who had no apparent gastric trouble who could produce an attack of urticaria by fixing his

mind on the subject. Crocker writes: "Everything in urticaria points to its being primarily a vaso-motor disturbance, direct or reflex, central or peripheral." Quincke's disease or angioneurotic oedema is now thought to be a angioneurosis. In my own somewhat limited practice I have seen five cases of this disease. Four showed evidences of an hysterical diathesis. The fifth was in an infant suffering with summer diarrhoea.

Erythematous and purpuric effusions into the skin have a less constant relationship to hysteria than any of the preceding forms.

7—*Ischæmic Conditions which are Localized.*—Localized ischæmia is due to a vaso-motor spasm of the arterioles of a given part, usually one of the extremities. There is probably a stimulation of the vaso-constrictor fibres. The skin may have a normal appearance or it may appear white. This latter is apt to be true if the extremity is involved. Ormerod writes: "Hysterical patients may present curious symptoms in the domain of the arterioles and capillaries. Limbs that are paralyzed or anæsthetic may exhibit also ischæmia, that is to say when cut or pricked they bleed less freely than normally or not at all. This is commonly ascribed to a vaso-motor spasm."

Summary—

1—Certain vaso-motor disturbances are found more or less frequently in hysterical cases.

2—Generalized pallor of the body surface and flushings are part of the "splanchnic storms" which are more often found in hysterical and neurasthenic patients than in any other class of cases.

3—The congestive patches constitute visible evidence of the reflex excitability of the local vaso-motor mechanism.

4—Erythromelalgia, dermatographia and the exudative skin conditions are produced by the vaso-motor neurosis plus toxic changes.

5—The same etiological factors hold in regard to ischæmia. In this group of cases, however, you have a vascular spasm only.

6—Among the co-operating causes which are sometimes in operation, may be mentioned toxins of gastro-intestinal origin, articles of diet, traumatism and toxins of insects.

7—Without a vaso-motor instability, inherited or acquired, these can not act.

8—It is interesting to note that some writers believe that auto-intoxication of gastro-intestinal origin plays a most important part in the causation of hysteria. If this is so, the etiology of exudative skin conditions and of hysteria are brought close together.

Lymphatic Constitution—Care of the Lymphatics During and After Surgical Operations.

Conclusions:

1. In constitutio lymphatica, we have a general condition of low vitality, of predisposition, of slight resistance, together with an extremely fertile soil for the propagation and development of pathogenic bacteria.

2. Given this condition we must change our prognosis and assume a graver one in the presence of any work involving fright, shock or possible infection. This last possible infection is, I think, a cause of death, which must be consid-

ered prominent in some cases. I refer to the possibility of the introduction of foreign material through the lymphatics at the time of the operation.

3. Care of Lymphatic Vessels: In operating on diseased glands, I dissect them to the point of exit of the vessel, which I then tie as I would an artery or vein. This method also prevents some hæmorrhage.

4. Care of Lymphatic Spaces: These are filled with sterilized vaseline or a thick ointment, thus occluding the lymphatic spaces and smaller vessels.—(*Annals of Surgery*, May, 1904, FREDERICK GWYER.)

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Editorial

A NEW CODE OF PROFESSIONAL ETIQUETTE.

The relations of doctors change with the evolution of civilization. Their latest statement by the Medical Faculty of Paris, goes into force June first, 1904, and is said to meet the approval of both profession and laity in France. It consists of one hundred and twelve articles. To the more important only is attention here directed.

In the matter of fees absolute liberty is accorded physicians and their patients to make such arrangements as they deem best, suggesting that the fees of the older and more prominent physician be larger, and vary with the financial ability of the patient. Urgent or protracted visits should obtain a double fee. Suit for payment is to be made only after repeated requests, and the amount verified by a committee of the Faculty.

The dividing of fees between physicians and specialists is forbidden under any circumstances.

No physician can take an interest in any enterprise for the manufacture or sale of patent medicines or the exploitation of mineral waters. It is forbidden to divide recompenses between physicians and druggists, or midwives or directors of therapeutic institutions of any description.

Physicians guilty of participating in the profits of hotels, water or air cure, etc., resorts, will be dropped from the rolls of the profession.

Professional advertisement of every sort is forbidden, as is the publishing of articles in the newspapers inviting publicity to any pharmaceutical preparation or special method of treatment.

In consultation no physician should publicly blame the attending physician, but reserve criticism for his colleague's private ear.

In general it is said that it is better not to inform a patient of his incurable disease, but in tuberculosis it is necessary, that others may escape infection. In cancer the information may be imparted with tact, to the relatives first and then to the patient.

Hereafter all medical students will receive medical degrees only as they promise to conform to this code. Space forbids mentioning numerous other points.

The occasion for this remodeled code was the outburst of charlatanism marked with periodical tours throughout France by practitioners and inventors of nostrums heralded in advance by flaming posters and advertisements, announcing their arrivals at certain towns on given dates, inviting all the sick and feeble of the locality to come and be cured. If only it gains the support of the laity, success is assured, as on such support charlatanism thrives as does legitimate medicine.

FAMILY PERIODIC PARALYSIS.

This is a disease which is unique in its manifestations, obscure in its pathology and rare in its occurrence.

Symptoms.—The paralysis is of a periodic motor type, which involves all the voluntary muscles save those of the face, eyes, tongue, organs of speech, deglutition and the sphincters of the rectum and bladder. The paralysis may be complete or partial, localized or general. The bowels almost never move during a paroxysm and the urine is seldom voided. There are no psychic symptoms. The mind is clear. The special senses are not involved as a rule. There is very little sensory disturbance. During an attack of complete paralysis, the reflexes and the faradic excitability are abolished in the affected part. These return on restoration of motor power. The attacks last from a few hours to several days. The recovery from a paroxysm may be abrupt, requiring in some cases only a few hours.

Prognosis.—A large majority of cases get over the attacks, while a few will die in a severe paroxysm.

Pathology.—George E. Holtzapple* regards the condition as a vaso-motor neurosis affecting the blood supply to the anterior horn cells, which are almost wholly supplied by the anterior spinal artery. The exciting cause, be it toxic, may have a direct influence on the vaso-motor nerves, regulating the blood supply to this part of the central nervous system, or it may have an indirect influence when due to gastro-intestinal disturbance or when paralysis results from sleeping in a draft. The progressive permanent paralysis, the doctor thinks, is due to a slow, progressive, degeneration in the anterior horns, caused by the frequent disturbance of nutrition.

Treatment.—The patient is given potassium bromid dram $\frac{1}{2}$, and caffeine

citrate grains 1 to 2. This can be repeated in one or two hours. While this treatment will not cure it has a decidedly abortive influence. It hastens improvement when taken during a paroxysm. Prophylaxis is most important when the exciting causes are known.

PATENT MEDICINES.

It is with considerable satisfaction that we observe the awakening (partial at least) of the lay mind to the dangers lurking in patent or rather secret medicines. A number of the most influential magazines have gone so far as to decree that they will insert no advertisements of such a character—a commercial sacrifice at no mean cost. This has been followed by a very strong editorial in a recent publication on the alcoholic contents of the leading proprietaries, showing that this varies from 12 to 47½ per cent., according to the report of the Analyst of the Massachusetts State Board. He compares them to wines and beers, to the great disadvantage of the former. While this is in a sense unfair, as the dosage is not ordinarily equivalent when directions are followed, it is quite true in many cases. As an example take a late patient of mine who suffered from alcoholism due to using one, two, and three bottles of Malt whiskey per diem. This man had been a total abstainer, but reading the advertisements in the paper, was induced to use it to his own final great disadvantage. Many of our religious papers, suffering from small incomes derived from short subscription lists, have allowed some of the most objectionable of these "ads" to buy their way into the homes of many credulous

**American Medicine*, April 30, 1904.

people who think that everything in such a paper is gospel truth. Some men in the ministry have also permitted their names and pictures to go into print with testimonials of these preparations. However, there are representative papers and ministers who are as much opposed to such practices as we ourselves are. We vividly remember the strong support of the Detroit Journal in the successful campaign waged against the nasty "ads" during the session of the last State Legislature. The dawn of a better day is certainly at hand when the clouds of ignorance beneath which the patent medicine evil thrives, will have lifted.

W. J. WILSON, JR.

RAISE OF FEES AT COLLEGE PHYSICIANS AND SUR- GEONS, N. Y.

Columbia University announces that the tuition at the College of Physicians and Surgeons next year will be two hundred and fifty dollars. It is to be hoped that such instruction will be given by the faculty that the students may cut private quizzes and so save one to two hundred dollars expense. Had the fees been made equal to the combined fees of the college and the private quizmasters, and the faculty did the work of both, all except the quizmasters would be advantaged. It would not matter that these aggregated four hundred dollars yearly, —provided the students got four hundred dollars worth of actual teaching. That the classes were reduced would have given the students a closer touch with teachers, and the teacher an opportunity to mould each student into a better

physician—in short the future profession emanating from the school would have been of a higher grade. The students protested against the raise of fifty dollars, but it does not appear that the protest was heeded. The teaching of medicine grows more expensive yearly, because more personal instruction in laboratories and hospitals is demanded. Public opinion should insist that such be furnished, or the medical college close its doors. If organization of the medical profession fails of this end, its members will have neglected both the interests of scientific medicine, of the profession in general and the laity. Once quantity, irrespective of quality, controlled the production of doctors; now when the market is overstocked, quality irrespective of quantity should control.

THE PASSING OF THE TERM "IDIOPATHIC SUPPURATIVE PERIMENINGITIS."

Primary or idiopathic suppurative perimeningitis is a very rare disease. Medical literature contains the records of twenty-four cases and only thirteen of these are worthy of analysis. J. Ramsey Hunt* asserts that there is not a single one of these thirteen recorded cases which does not accord perfectly in its clinical and pathological manifestations with our present conception of acute infectious osteomyelitis of the spine. He thinks the perimeningitis has its original focus in the spinal bones. This focus may be so small however as to escape notice. It is of great importance that stress

**Medical Record*, April 23, 1904.

should be laid on the focal spinal symptoms as not only indicating the true nature of the affection but also the immediate necessity and site for the operation. The operation of choice is a double laminectomy as suggested by Chipault. This procedure give the most perfect drainage.

PROTECTION OF PHYSICIANS AGAINST BLACKMAIL.

Most malpractice suits are simple blackmail. A patient, well served by his physician, refuses to pay his bill. Talking the matter over he finds a miscreant—mis-called doctor—who tells him he has a case and advises consulting a miscreant lawyer, who takes the case on speculation. A demand for damages is made of the doctor, and a bluff made of beginning suit. If the defence be weak-kneed the suit goes on, with all the uncertainty of a jury trial, and a probable mulcting for damages.

The number of these and allied suits is larger than generally supposed, because most never reach the public. Statistics show that during the past few years in the United States one out of every one hundred and fifty physicians has been sued for alleged malpractice.

Two years ago the New York State Medical Association began to protect its members. The *Medical Record* says that this protection has decreased the number of these suits. In only three cases has the action been placed upon the calendar for trial, showing that the public, even after

one year, felt the force of organized defence.

The Chicago Medical Society has been even more successful during the same period. Two other representative medical bodies have adopted similar methods of defence.

Not only is the defence most effective, it also is far less expensive. In one society the cost to the members fell in one year from ten thousand dollars (paid medical defence corporations) to one thousand dollars, with the prospect of being far less when the system became perfected.

There is no reason why any considerable medical organization might not follow the methods alluded to and members sleep in the consciousness of an impregnable defence, pay far less than now for an effective protection, and draw closer to each other in all professional relations.

It is known that Detroit pays more than two thousand dollars yearly to stock companies for protection. Records of medical defence through the organized profession, make evident that this defence could be had much more economically through the Wayne County Medical Society. It is hoped that some wide awake members will take up the project and place it before the Society in a practical form. Later it may be brought before the State Society. Such a move would tend to solidify the Local and State Society by making more evident the value to the individual of such organization.

The success of the Chicago Medical Society has spurred the Council of the State Society to commend it to the consideration of that body, with a prospect of its adoption.

County Society News.

HOUGHTON COUNTY.

Houghton County Medical Society met in Calumet on March 7th. T. A. Felch, Councilor for the Twelfth District, gave a talk on the State Organization. After complimenting the Society on the work it had done, he urged the members to go on with the good work until every eligible physician in the counties of Houghton, Baraga, and Keweenaw became members. In closing he made the assertion that in the near future every physician who was not a member of his County Medical Society would be at a decided disadvantage.

H. M. Cunningham, of Marquette, read a paper on "Nasal Obstruction," and exhibited a number of specimens. He said: "We get just as satisfactory results in the treatment of these cases as we do in eye work."

A. F. Fischer, of So. Lake Linden, presented a paper on "The Present State of X-Ray Therapeutics."

Abstract.—Since the discovery of this ray by Röntgen, in 1895, the atom and molecule which were considered to be the smallest particles into which matter could be divided, are now considered quite large bodies, compared to the corpuscle of Prof. Thompson. Lord Kelvin has demonstrated these latter to be one twenty-five millionth of an inch in diameter. These corpuscles are discharged with tremendous velocity under certain conditions: 1st, from a negative electrode in a Crooks tube; 2nd, from objects impinged upon by the cathode ray, giving X-rays; 3rd, from very hot bodies, such as incandescent metals, etc. These corpuscles are capable of carrying a tiny charge of positive or negative electricity. A stream of these proceeding from the cathode and impinging on a target causes the X-ray to emanate. The therapeutic application of the X-ray has been based upon the following qualities: 1st, they cause atrophy of certain structures; 2nd, they cause destruction of certain pathological tissue; 3rd, they destroy certain organisms in living tissue; 4th, they have an anodyne effect; 5th, they have a stimulating action upon the metabolism of tissue; and, 6th, they may cause destruction to normal tissue. These qualities of the X-ray make possible its use in the following diseases: Acne, carcinoma, sarcoma, tuberculosis, lupus vulgaris, syphilis, tinea flavus, and painful and inflammatory conditions.

Meeting adjourned.

JAMES HOSKING,
Secretary.

HURON COUNTY.

The second annual meeting of Huron County Medical Society was held in Bad Axe, Monday, Jan. 11th.

The election of officers resulted as follows: Pres., W. J. Herrington, Bad Axe; Vice-Pres., F. E. Luton, Kilmanagh; Sec. and Treas., D. J. McColl, Elkton; Member Board of Directors, A. M. Oldfield, Harbor Beach; Delegate to Michigan State Medical Society, Daniel Conboy, Bad Axe; Alternate, C. B. Morden, Pigeon.

After the meeting a banquet was given the members and visitors by the retiring officers.

D. J. McColl,
Secretary.

JACKSON COUNTY.

Jackson County Medical Society held its regular quarterly meeting April 5th, at Jackson. There were 29 members present. The meeting was called to order by President D. E. Robinson.

F. W. Rogers presented a paper on "Conervative Gynecology."

Abstract.—Classification of diseases of female sexual organs:

1. Those of congenital origin.
2. Those of inflammatory origin (infectious).
3. Traumatic origin.
4. Those dependent upon derangement of the general system.

The first class of cases are most discouraging to handle without operation, whether the treatment undertaken be medicinal or mechanical. In atresia, deformed cervixes, imperforate hymen, the treatment is not only surgical—it is operative.

The second class of cases offer better opportunities for success of non-operative procedures. The infections of the vulva, vagina, and of some of those of the cervix, may be treated by the application of medicinal substances to the diseased surface, but in a large proportion of cases the infection has involved the uterine canal or even the Fallopian tubes. Two obstacles prevent the application of medicines to the uterine canal; (a) smallness of canal; (b) the adherent secretion. Neither by cotton wound on an applicator, nor by injecting with a uterine syringe, can one get the medicines directly upon the inflamed mucous membrane. We must dilate the canal under aseptic precautions and under anesthesia apply the medicines properly. Less careful attention to detail means we stir up greater trouble than we are asked to treat. When

we remember the great probability of the infectious process sooner or later extending to the tubes, with the enormous possibilities of danger in such an event, which shall be called the conservative treatment, the ineffectual indiscriminate treatment, or an early aseptic dilatation and curettement? Given a tube distended with pus, is it conservative treatment to apply remedies to the vaginal vault, ice, poultices or blisters to the abdomen, massage of the tube, the grand-stand play of electricity which does more harm than good, or to promptly operate, save the suffering and exhaustion and sepsis by making an outlet at a place affording the most direct drainage?

Those troubles due to traumatisms also cover a very large class. Retroversions, prolapse, rectoceles, hypertrophies of the cervix, ulceration of the cervix (so-called), and the vast majority of rectro-vaginal and vesico-vaginal fistulæ, come under this head. Conservative treatment here is to properly diagnose the lesion, then to remove cicatricial tissue and repair.

Those diseases which are dependent upon diseases elsewhere are not a large class, and there is a question if they should be classed as gynecological diseases. They follow the fortunes of the primary disease, and usually call for no special therapy other than that for the original trouble.

In general, in a purely gynecologic case, when the diagnosis has been correctly made of the condition and of its causation, it will be found that there is little of real curative therapeutics that is not surgical, and operative at that, and also that the most truly conservative gynecology is often early operation of some kind.

Discussion—

N. H. Williams—I was interested in the paper, especially in the application of the term "conservative." What may be conservative to one person may be radical to another, depending upon one's temperament. It is a good question to ask oneself: Is a case curable or non-curable? If it is curable without operation, that should be done. A mistake often made by surgeons is the operating upon neurotics. They go the round, have operation after operation with no results, and become a reproach to the profession. Time is a conservative agent, and where a disease is amenable to treatment, and where patient has means and is not compelled to work, it is the best agent. Of course pus tubes and new growths should be removed. Otherwise the removal of uterus and ovaries should be postponed.

T. S. Langford—Conservative gynecology should be prophylactic. The young practitioner sees many cases of gonorrhœa in the male, and ceases to wonder at the prevalence of disease in the female.

The Society then adjourned to the operating room of the Jackson City Hospital, where they witnessed two laparotomies and a curettage and tracheolorrhaphy skillfully performed by Reuben Peterson, of Ann Arbor.

R. GRACE HENDRICK,

Secretary.

MONROE COUNTY.

The quarterly meeting of the Monroe County Medical Society was held in Newport, April 21st.

C. T. Southworth, of Monroe, read a paper on "The Pancreas and Its Diseases, With Report of a Case."

Abstract—

1. Physiology of pancreas.

2. Diseases of pancreas—Rupture, cysts, calculi, hæmorrhage, acute gangrenous and suppurative pancreatitis, chronic pancreatitis and cancer of the pancreas.

3. Report of a case.

On March 14th, 1904, at 8 p. m., I was called to see A. H. W., male, age 55, a bachelor and lumber dealer. I found him suffering intense pain in the epigastric region, accompanied by some nausea and moderate tympany. The temperature was normal, pulse 100 and weak, and tongue fairly clean. The patient had made a diagnosis of acute indigestion and I saw no reason at that time for differing with him. He had taken a dose of sodium bicarbonate in hot water and I administered a Seidlitz powder and left him.

Two hours later I was hurriedly called again. I found him in the same condition as when I left him, except that a cold perspiration stood out upon his forehead. I then questioned him more closely and found that this pain had come on him very suddenly while he was in the barber's chair at 5 p. m. He had been feeling perfectly well up to that time. He had worked hard all the day, had eaten lightly and had not been drinking as much as usual on that day. I could get no history of injury. At this time the distension of the abdomen was somewhat greater, eyes very dull, pulse weak but regular, thirst intense, tongue parched but no vomiting. I administered morphine sulphate gr. ¼, nitroglycerin gr. 1-100 hypodermically, and a dose of Epsom salts internally. I remained with the patient all night and watched him

closely, not being satisfied what the trouble was. I was under the impression I had a bad case of gall-stones to deal with. After the hypodermic injection the patient rested until 2 a. m., when he vomited. There was nothing about the vomit that was characteristic of any disease. The patient remained quite comfortable the remainder of the night and I gave no further treatment. At 6 a. m. the bowels had not moved. I gave another dose of "salts." The sweating had almost ceased, the pulse was stronger and the man was comfortable.

I saw the case again at 10 a. m., and found a return of all the bad symptoms, extreme thirst, cold perspiration, weak pulse, abdomen much distended. There was, however, but little pain. The bowels had not moved nor had the patient passed any gas. At this time I told him that he was in a very critical condition. Geo. F. Heath was called in consultation. After an examination he concluded that we had an obstruction of the bowels to deal with. So we went to work with enemas of different kinds, but with no effect whatever. At noon we concluded that a laparotomy was the last resort. T. A. McGraw, of Detroit, was called. After a careful examination, he pronounced it a case of either rupture of the gall-bladder or the stomach. Dr. McGraw made an incision in the abdomen in the median line. The abdominal cavity was filled with a large amount of almost clear fluid. This proved to be the water that the patient had been drinking. It had leaked through the stomach wall. The next thing that attracted attention was a large ulcerated surface the size of my hand. Upon examination of the stomach, a small perforation was found in the lesser curvature. The pancreas was enlarged and hard. The intestines and gall-bladder were normal. Owing to the weak condition of the patient, large drainage tubes were inserted and the wound closed. The patient rallied almost immediately from the anæsthetic and slept fairly well through the night. From this time on he suffered no pain whatever.

The temperature never rose above 101°. The pulse remained about 88 and respiration 22. There was some distension of the abdomen but no tenderness. Nutritive enemas were given every two hours after the first 18 hours and all were retained. The bowels moved naturally about once a day. Everything looked favorable until the morning of the fourth day, when the pulse began to fall and the temperature to rise. There was some delirium and the abdomen was more distended. The patient died at 9 p. m. that night.

We did not have a post mortem but I remained with the undertaker and we opened the wound and made a further examination. At this time we found a large abscess of the pancreas.

After the operation, the urine was examined and a slight trace of sugar was found. Otherwise the urine was normal. The white or grayish substance we took to be an ulceration proved to be fat necrosis. From the amount of fat necrosis present, it is evident that this disease had been present in the man for some time. Upon the very closest questioning we were able to find but two complaints in his entire make-up, viz., constipation and a sleepy feeling. The two symptoms he was able to trace back for over a year. He never suffered any pain. He always had a good appetite and a most perfect digestion. In fact so far as he or anyone else ever knew, he was a perfectly well man until he was stricken on Monday, after being about his work all day.

Geo. F. HEATH,
Secretary.

MONTCALM COUNTY.

Montcalm County Medical Society held its regular meeting at Howard City, April 14th. Fifteen members were present. Drs. J. D. Whelpley and N. Nelson, both of Howard City, were elected members, making the total membership of the Society 26. This is a gain of two over last year.

A. W. Martin read a paper on the "Therapeutics of Ergot." W. P. Gamber, who passed the winter in Augusta, Ga., gave a very interesting talk on Southern medicine. L. S. Griswold presented a paper on the "Surgery of the Head." J. Black read a paper on "Diphtheria."

Abstract—

He advocated the early use of antitoxin. Alcoholic stimulants are of the greatest value. There is more danger in giving too little than too much. The high fever should be combated by sponging and baths. Antipyretic drugs should be avoided, because of their depressing effects. In rapid heart failure, moderately large doses of morphine hypodermically should be used. There should be plenty of sunlight and fresh air in the room. Cleanliness of the parts should be had by frequent removal of decomposing materials and disinfection of the discharges. Insist upon the recumbent position and avoid all exertion on part of the patient.

Meeting adjourned.

H. L. BOWER,
Secretary.

WAYNE COUNTY.

GENERAL MEETING, APRIL 28, 1904.

C. G. Stockston, of Buffalo, presented a paper on "Tubercular Pericarditis." After giving the histories and autopsy findings in three cases, the doctor drew the following conclusions:

1. Tubercular pericarditis is not a rare affection.

2. The diagnosis is usually not made except in cases having simultaneously active tubercular processes in other parts.

3. The concurrence of pleurisy with blood-stained effusion may be regarded as suggestive.

4. The pericarditis may be of a chronic obliterative type or there may be massive effusion, generally sanguinolent but rarely purulent.

5. It may be acute, continuing for not a few weeks, or chronic, existing for many months.

6. It may be a part of a multiple serositis, and the proportion of cases in which at least one or more of the pleural cavities are involved is remarkable.

7. The disease is to be regarded as a secondary affection, although from a clinical point of view, some cases may be looked upon as primary.

8. The point of origin of the infection is often found in the bronchial and mediastinal lymph nodes, although these may be quite exempt from the disease. The infection may be direct from continuity of tubercular tissues or by transmission through the lymph vessels or through the circulation.

9. The heart may be greatly enlarged or normal size or even somewhat small.

10. Some observers believe that occasionally the process subsides and that comparative cure results.

Miscellaneous.

NEWS ITEMS.

The Canadian Medical Association will hold its annual meeting at Vancouver, B. C., August 23, 24, 25 and 26, 1904. The President and Executive Committee of this Association extend a cordial invitation to all the members of the Michigan State Medical Society to be present at this meeting.

The annual meeting of the American Medical Association will be held at Atlantic City, June 7-10, 1904.

The American Academy of Medicine will hold its twenty-ninth annual meeting at the Shelburne Hotel, Atlantic City, June 4 and 6, 1904.

The Tri-State Medical Society of Iowa, Illi-

nois and Missouri will meet in St. Louis June 15-17, 1904.

The Nebraska State Medical Society held its thirty-sixth annual meeting at Omaha, May 3-5, 1904.

The French Congress of Alienists and Neurologists will hold their 14th annual meeting at Paris, August 1-7, 1904.

The International Congress of Ophthalmology will meet in Lucerne, September 13-17, 1904.

The Royal London Ophthalmic Hospital (Moorefields), was founded one hundred years ago. It was the first and has remained the largest eye hospital in the world. It was founded and is maintained as a pure charity, supported by private contributions. The most celebrated English ophthalmologists have made its reputation, as Wm. Bowman, Geo. Critchett, Jonathan Hutchinson, and others.

The fate of doctors who endeavor to correct abuses in public institutions is illustrated by that of Dr. Wm. D. Robinson, of Philadelphia. For several years he had been resident physician of the Eastern Penitentiary. Later he was appointed a member of the Board of Inspectors, and became especially active in investigating and exposing abuses—result, removal by the Governor. It seems universal that public institutions under political control must be given over to plunder by incompetent or dishonest henchmen, and that reformers are summarily bounced.

Dr. William T. Bull has resigned his position as Professor of Surgery in the College of Physicians and Surgeons, New York City. Dr. George E. Brewer, Professor of Clinical Surgery, has taken his place.

The College of Physicians, of Philadelphia, Pa., the owner of one of the largest medical libraries in America, has decided to remove to the corner of Ludlow and Twenty-second streets, and erect a modern, commodious building at a cost of a quarter of a million dollars—so prosperous is this medical organization. It exists not to make more doctors but to develop those already made. Not a little of Philadelphia's medical prominence has been founded on the facilities afforded by this institution.

New York has abolished the antiquated coroner system. A Board of Medical Examiners appointed by the Mayor, takes its place. Suspicious cases are to be examined in the presence of the district attorney and one policeman. It is time the same was done in Michigan, as its practical work-

ing has been most satisfactory in Massachusetts and elsewhere.

It is announced that the Agricultural Department at Washington has discovered a substance which will destroy typhoid germs in stagnant water. Sanitarians doubt this claim; outsiders await the results of studies by others.

It is said that the germ of mumps has been discovered by Dr. Samuel Darling of Baltimore City Hospital.

The St. Louis Court of Appeals has decided that physicians who are also druggists cannot fill their own prescriptions if the main ingredient be whiskey, as this would remove the check to the sale of whiskey, established by law.

Dr. and Mrs. C. S. Cope, of Ionia, celebrated their 25th anniversary on April 23rd.

John G. Goode, in the *Charlotte Medical Journal*, reports a case of a child born with its heart outside of its body. The labor was normal and the child weighed 5½ pounds at birth. The heart protruded from the chest through an opening just large enough to permit the vessels to enter the chest cavity. The opening corresponded in position with the second piece of the sterum (gladiolus). The child did well for some days but the walls of the heart gradually got thicker and thicker. At the end of sixteen days the child died. From the birth of the child the heart was kept anointed with olive oil and protected from all clothing, etc., with a paste board appliance, cone-shaped, placed over the organ.

The Louisiana State Medical Society held its 25th annual meeting at New Orleans, May 10-12, 1904.

At the close of their college years and preceding their commencement exercises, the Detroit College of Medicine and the Michigan College of Medicine and Surgery entertained their alumni by lectures, clinics at the hospitals, receptions and dinners.

CHANGE IN MEMBERSHIP.

(April 15th to May 15th.)

NEW MEMBERS.

C. W. Armitage, Port Hope, Mich.
O. C. Bowen, Manistique, Mich.
J. D. Brook, Grandville, Mich.
W. T. Campbell, Brown City, Mich.
G. H. Chappell, Grand Rapids, Mich.
G. C. Christmas, Harbor Beach, Mich.
J. A. Clark, Cascade, Mich.

J. Corcoran, Ubyly, Mich.
W. H. Fulton, Bad Axe, Mich.
W. A. Giffin, Ubyly, Mich.
F. A. Kinsey, Three Rivers, Mich.
R. Leuschner, Mt. Clemens, Mich.
M. C. McDonnell, Bad Axe, Mich.
C. B. Morden, Pigeon, Mich.
J. O. Nelson, Howard City, Mich.
J. H. O'Dell, Three Rivers, Mich.
W. J. Saunders, Soule, Mich.
W. J. Shilliday, Lake Ann, Mich.
A. Toal, Peck, Mich.
J. W. Weed, Brown City, Mich.
J. D. Whelpley, Howard City, Mich.

CHANGE OF ADDRESS.

J. H. Braily, Kalamo, Mich.
W. C. Conley, Ironwood, Mich.
W. D. Kean, Michigamme, Mich.
A. C. McKinnon, Mio, Mich.
J. A. Vernier, 216 24th St., Detroit, Mich.
L. Westcott, Madison, Wis.

BOOKS RECEIVED.

VON BERGMANN'S SURGERY.—By Drs. E. von Bergmann, P. von Bruns, and J. von Mikulicz. Edited by William T. Bull, M. D. Vol. II. Lea Brothers & Co., Philadelphia and New York, 1904.

MUSSER'S MEDICAL DIAGNOSIS.—New (5th) edition.—By John H. Musser, M. D. Lea Brothers & Co., Philadelphia and New York, 1904.

MANUAL OF MATERIA MEDICA AND PHARMACY.—By E. Stanton Muir, Ph. G., V. M. D. F. A. Davis Co., Philadelphia, 1904.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1902.

TRANSACTIONS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, 1903.

Correspondence.

Mt. Clemens, April 20, 1904.

Editor of *The Journal of the Michigan State Medical Society*:

Dear Doctor.—Several of the physicians complain that the name of Dr. M. C. Cronin, of this place, appears in Polk's Medical Register (1904 edition) as a member of The American Medical Association and of The Michigan State Medical Society. As you know, he was deposed two years ago from membership in the latter body for unprofessional conduct. I should like to know if this cannot be corrected by the State Journal and The Journal of the American Medical Association?

Yours very truly,

JOSEPH M. CROMAN,
Sec'y Macomb Co. Med. Soc'y.

Book Notices.

Under the charge of

RAY CONNOR.

DISEASES OF THE NOSE AND THROAT. By Charles H. Knight, M. D. 148 illustrations. Octavo; 423 pages. Cloth; \$3.00 net. P. Blakiston's Son & Co., Philadelphia.

Few text-books are written with so unbiassed and judicial a mind as the one before us. At times one almost wishes the author had been more of the advocate and less of the judge and had given a little more decidedly his personal experience in the matter under discussion. The book is based on the author's lectures to the Cornell students and despite the fact that he refers to other text-books for the details of the anatomy, enough has been included to satisfy the average reader. The effort has been made to give credit to the original sources but space did not permit a complete bibliography.

The nose and its accessory sinuses with their diseases receive the first attention. The chapter on the sinuses is especially good. The methods of diagnosis and treatment are clearly and conservatively given from the antral puncture to Luc's radical operations. Then the pharynx and finally the larynx are considered systematically. In the removal of the tonsils the Mackenzie tonsillotome receives the place of honor for its simplicity, safety and efficiency. As regards carcinoma of the larynx, he differs greatly from J. N. Mackenzie and concludes that conditions so extreme as to require a complete laryngectomy render a case inoperable.

There is no padding in the work and a surprising amount of valuable information has been crowded into what appears at first sight to be a rather small book. The author's style is scholarly and concise. He displays a thorough acquaintance with the extensive literature of the subject as well as a clear estimate of the relative value of his facts. The illustrations, many of which are of instruments, although some are from the author's specimens, add much to the value of the work. The letterpress and mechanical features of the book are excellent.

The work can be most heartily recommended to those who want a complete, yet comparatively brief resumé of the subject up to date.

MANUAL OF CLINICAL MICROSCOPY AND CHEMISTRY. By Dr. Herman Lenhartz of Hamburg. Authorized translation by Henry T. Brook, M. D., of New York. With 148 illustrations and 9 colored plates. Pages xxxii—412, Octavo. Cloth, \$3.00 net. F. A. Davis Co., Philadelphia, 1904.

Prof. Brooks' experience in teaching many hundreds of graduate physicians has been of

great service to him in translating this work. The many additions from his pen have added greatly to the usefulness of this book to the general practitioner. Thus, for hæmoglobin estimation he recommends the Talquist scale as the best method yet devised for everyday use in practice. This is not even mentioned by the author amongst a number of others more accurate, perhaps, but taking more time and expensive apparatus.

The translation is based on the fourth German edition and includes a wide range of subjects. Vegetable and animal parasites are given the first consideration. The position of bacteria in the vegetable kitchen is shown schematically. The common pathogenic organisms are taken up systematically and described. No references are given to the literature, but the value of the work is much enhanced by brief historical notes, preceding the practical points. Thus, before the description of the tubercle bacillus, the part taken by Villemin, Cohnheim, Baumgarten and Koch in the identification of the disease is concisely set forth. Then follows its morphological, cultured and staining characteristics.

The ectoparasites are passed over with a mere word, although some, such as *Phthivius Pubis* are figured. The entoparasites are taken up at more length, although trypanosomiasis is not mentioned. The blood in health and disease is the next topic considered and includes an article on the Forensic Detection of Blood Spots. The examination of the sputum and the secretions of the alimentary tract furnishes the food for two more sections, while the discussion of the urine and aspirated fluids complete the work.

A fairly complete index adds much to the value of the book. Certain minor discrepancies detract somewhat from the excellence of the whole. Thus, under the description of the tubercle bacillus a reference is made to Plate VII, Fig. 5, where anthrax bacilli are figured. Strangely enough the determination of the molecular concentration of urine is given the name cryoscopy, while the same process with the blood is denied that title.

The work as a whole contains much of value which is so arranged as to be easily accessible to the busy practitioner. It should serve, as its author intends, to disseminate the use of the methods described to the mutual benefit of the doctor and his patient.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Myelopathic Albumosuria.—Bruce, Lund and Whitcombe report the rare case of Myelopathic albumosuria in a woman, 51 yrs. old, who, in bending over a fire, fractured her left femur. One week after the fracture, while the nurse was lifting the patient slightly, the left clavicle was fractured. Three months later a rib on the left side was fractured. There was marked anæmia, emaciation and lassitude, vomiting and frequent diarrhoea. Vomiting and diarrhoea came on suddenly without pain or effort or preceding nausea. A month later the left humerus was fractured in trying to reach for something under her. Four weeks later she died.

There was nothing in her previous history of importance except that she had partaken of a very spare diet. She had had considerable neuralgic pain in different parts of the body. There was no enlargement of bones during the eight months she was under observation. Examination of urine showed it straw-colored, often syrupy, forming froth on shaking. Odor was aromatic (the odor later was perceptible in the breath). Sp. gr. 1019-1022, quantity 80 to 120 oz. Heat gave a precipitate dissolving on boiling. Cold nitric acid gave a precipitate which dissolved on boiling. Hydrochloric acid gave exactly the same condition as nitric.

At the necropsy about the fractured humerus there was six ounces of pale pink blood-stained fluid giving a gluey feeling. This fluid was found to consist of Bence Jones albumenose.—(*The Lancet*, April 16, 1904.)

Pseudo-Appendicitis.—It should be recognized that pain in the right iliac region increased at McBurney's point, intestinal crisis or abdominal symptoms will simulate appendicitis when there is none there. All the symptoms attributed to typhlitis have of late been called appendicitis and even the term and condition have been denied. It is an exaggeration to deny that there can be no typhlitis for there can be an inflammation of the cæcum as well as any other part of the large or small intestine. Follicular, membranous or calculus enterocolitis are common. While formerly we may have exaggerated typhlitis we are now at the other extreme. We may have an entero-typhlo-colitis, more commonly called catarrhal enteritis. He has made a study of muco-membranous colitis in about 2,500 cases and has never found one associated with, or leading to, appendicitis. Yet the crises often simulate ap-

pendicitis, though never fatal. These should be called pseudo-appendicitis.

Intestinal lithiasis, especially studied since 1896, also presents symptoms of appendicitis. It is much more common than is generally suspected. Patients often detect earthy substances in the stools, but they are usually attributed to biliary calculi. These are painful attacks occurring periodically, lasting several days and ending in collapse. In the stools with the sand are found slime and mucus, also false membrane. It coincides with entero-typhlo-colitis. The sand is composed of phosphates and carbonates of lime and ammonio-magnesian phosphates. All his patients with muco-membranous enter-typhlo-colitis showed symptoms of gouty or arthritic diathesis.

Diagnosis.—The two forms of enteritis most likely to be confounded with appendicitis are the muco-membranous entero-typhlo-colitis and intestinal lithiasis. While appendicitis is usually of sudden onset the stercoral colitis has a long premonitory period, often imperceptible but got by questioning. Digestive troubles, particularly the paucity of stools and their scantiness, quite disproportionate to the amount of food taken, are the rule. These stools are viscous, brownish, often hard. The appetite is good, the abdomen distended, especially about the right iliac fossa. The stercoral dilatation of the cæcum, especially its shape, the localization of the pain, the absence of cutaneous hyperaesthesia and usually of fever should cause a temporizing diagnosis. The employment of purgatives and injections will clear up the doubt quickly. The presence of slimy or mucous matter, of false membrane will tell that it is entero-typhlo-colitis. Where paroxysmal crisis with feverish condition, intense pain and vomiting (not infrequent in entero-typhlo-colitis) are present, we may mistake them for appendicitis, but usually here we have the history of constipation and digestive troubles with frequent but milder pain in the right side. In appendicitis the onset will be sudden, with no such history. The pain in colitis is not definitely located, but radiates over the colon, especially on a level with the hepatic and splenic flexures. There is also another tender point between the umbilicus and ensiform cartilage. The stools should be carefully examined for slime, false membrane and sand, but the presence of an irregular but true appendicitis should be thought of.—(*Lancet*, April 23, 1904, BOTTENTUIT).

SURGERY.

Under the charge of

MAX BALLIN.

Treatment of Fractures.—Recent fractures should not be put up in immovable dressings, such as plaster of Paris for the first ten days. Splints should be used so that a direct inspection is possible, to see if the fragments are in proper apposition. If a plaster dressing is used, the relative position of the bones should be watched by X-ray examinations.

To make a well fitting, light, and firm bandage, the use of gauze strips impregnated with silicate of soda (soluble glass) is to be recommended. These soluble glass dressings can be cut open and laced. Starched bandages also may often be substituted for the inconvenient plaster of Paris bandage. Certain simple fractures with unbroken skin should at times be operated upon—for instance: fractures of the neck of the femur in people under 55 yrs.; fracture of the upper third of the femur; fractures of patella and olecranon with wide separations. In bad fractures of the clavicle, wiring is indicated. In elbow fractures, in which ankylosis is unavoidable, a resection will give a movable joint. Inability to sufficiently reduce the fragment is another indication to operate primarily.

The formation of callous is evidence that accurate approximation of bones has not been achieved. The presence or absence of callous has marked influence on the functional results obtained, especially in fractures in the vicinity of joints. If a joint is involved and the fragments are not approximated, we must expect limitation of motion. Passive motions to overcome these limitations are useless. It is better in these cases to pin the fragments in place, or to incise and replace or remove them. If the fragments are well approximated and the joint is kept quiet, the callous is kept at its minimum. The joint soon limbers up, after removing the restraining bandages.

Early massage of the fractured parts, beginning with a slight effleurage, will prevent inflammation and effusion in the soft parts, and will enable the limb to resume its function as soon as union of the bone has taken place. Treatment by restraining splints and massage should be combined.

Fractures with little or no displacement can be immediately put in well padded splints. In cases with redness and swelling, a wet dressing

(glycerine and water, equal parts) may be desirable before putting the splint on.

The method of using ambulatory dressings for fractures of the leg is only indicated in selected cases.—(*Annals of Surgery*, May, 1904, G. G. DAVIS.)

Foreign Body in a Bronchus.—This was removed by an electro-magnet. An upholsterer got a tack into one of his bronchi. The position of the foreign body was determined by the X-ray. With the aid of an electro-magnet, and a bronchoscope, the tack was removed.—(*Gazette des Hôpitaux*, 1903. 148 LERMOYEZ.)

Gastric Dilatation and Tetany.—The gastric dilatation in these cases is usually caused by benign pyloric obstruction. The attacks of tetany most commonly follow severe vomiting; less frequently after introducing a stomach tube, or after stomach lavage.

The first symptom is pricking and numbness in the hands. Later tetanic contractions appear in hands, arms and legs, and occasionally in the face. Transitory blindness has been recorded. The patient may remain conscious or become delirious. Attacks last from a few minutes to several weeks. The prolonged cases are usually fatal.

Several theories have been presented to explain the cause of gastric tetany. One claims that the loss of fluid from the body in consequence of the frequent vomiting is responsible for the tetany. Another explains tetany as a reflex action produced by stimulation of the sensory nerves of the stomach. A third theory depends upon the presence of an auto-intoxication arising from prolonged and abnormal chemical processes in the dilated stomach.

The prognosis of gastric tetany is very grave. The mortality is 70 to 80 per cent.

The treatment is, first, medical: lavage of the stomach and controlment of the tetanic spasms, by ice, tepid bath, bromides, morphine, etc.; second, surgical; removal of the pyloric obstruction by pyloro-plastic or gastro-enterostomy. Eight cases of gastric tetany are on record, treated surgically, with three deaths and five cures. To these eight cases, the writer adds one of his own, which was entirely cured by a gastro jejunostomy.—(*Annals of Surgery*, April, 1904. F. H. Cunningham, Jr.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Papilloma of the Ureter.—Primary tumors of the ureter are rare. Mackenrodt reports the case of a woman, aged 60, who had suffered for some months with pain in the right side and hematuria. The blood being intimately mixed with the urine, it was thought that the hemorrhage was renal, but on cystoscopic examination, a papillomatous mass was seen projecting into the bladder from the orifice of the right ureter. The tumor, which proved to be a papilloma, was removed through an abdominal incision, 5 centimeters of the ureter being resected and the cut end implanted into the bladder. Convalescence was uninterrupted, no leakage of the anastomosis occurring.

For operations on the bladder, Mackenrodt advocates a U shaped incision, with the convexity downward, the recti muscles being detached from the symphysis. A transverse, instead of a longitudinal incision, into the bladder is also recommended. (*Zeitsch. f. Geb. u. Gyn.* Bd. 1., Hft., 1, 1903.)

Ovarian Cyst. Reduction of Twisted Pedicle.—Porter reports an interesting case of ovarian cyst with twisted pedicle, in which three strangulations of the cyst were relieved by manipulation. A woman, aged 35, had complained for two years of pains in the back and discomfort in the pelvis but had been in fairly good health until Dec. 23, 1903, when she was seized with a sudden sharp pain in the right iliac region. A lump, the size of an orange, here appeared, but after massage and manipulation it vanished and the pain subsided.

On Jan. 5 she had another attack, similar to the first, and again on Jan. 11 there was a still more severe attack, pain being continuous and vomiting a marked symptom. On examination, a globular tumor the size of a grape-fruit was found in the hypogastrium. This was very mobile and could be made to take almost any position in the abdomen, not without causing considerable pain, except when in the right ovarian region. In each of the attacks, the symptoms disappeared after manipulation of the tumor.

At operation, an infarcted ovarian cyst, purple in color, tense and shiny, was found to spring from the right broad ligament. The pedicle was twisted $1\frac{3}{4}$ times toward the median line. A tumor the size of an orange was also found on the left side. Recovery was satisfactory. (*Boston M. and S. Jour.*, Apr. 7, 1904.)

Prophylaxis of Post-operative Cystitis.—Baisch quotes, from the various German clinics, the statistics on cystitis following the Wertheim operation (combined abdominal and vaginal hysterectomy for carcinoma) showing that it

is very common and not an infrequent cause of death, through an ascending renal infection. Cystitis is favored by the retention of the urine which is caused by the destruction of the blood and the nerve supply to the bladder, and its rational prophylaxis is frequent catheterization and irrigation. Boracic acid and protargol solutions are recommended.

Since the institution of this treatment, there was not a single instance of post-operative cystitis in a series of 31 hysterectomies done by the Wertheim method, yet only one was able to urinate spontaneously from the first. Even after voluntary micturition is restored, it is at first incomplete and the catheterization and irrigation must be maintained until full control, with power to completely empty the bladder, is obtained. (*Zent. f. Gyn.*, 1904, Nr. 12.)

Ureteral Catheterism in Diagnosis.—Van der Poel believes that catheterism of the ureters is not in any way harmful, unless it is done through a diseased bladder. Comparing this method to others, he gives the following advantages:—

The cystoscope is more easy of introduction than are the separators or segregators, is less painful during the bladder manipulations and much less so during the collection of the urines. Hence as a rule:

With ureteral catheterism we can collect the urines during as long a time as may be thought necessary, the patient not requiring any supervision.

A cystoscopic examination of the bladder can be made at the same time, which, in some cases, is useful, in others, indispensable.

We are much more certain of the exact results, especially when the two urines are of a similar character, whether clear, bloody or purulent.

It is the only method by which we are fairly certain that there is no bladder contamination. (*N. Y. Med. Jour.*, April 16, 1904.)

Yeast Treatment of Gonorrhea.—Following up his chemical and bacteriological investigations, Abraham obtained excellent results in a series of 40 cases of gonorrhoea in women, from the use of vaginal suppositories prepared from yeast, asparagin and gelatin. He believes the action is chemical, rather than in the nature of an enzyme, the products produced by the growth of the yeast cells, apparently destroying or inhibiting the development of the gonococci and benefiting thereby infections of the vulva, vagina and uterus. It has no effect upon infections of the tubes, except by preventing reinfection.—(*Monat. f. Geb. u. Gyn.*, Bd. xvi, Hft. 6.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Constipation.—In undertaking the treatment of constipation, the first aim should be to discover if possible the cause. This may be done upon the general principles of diagnosis, either by induction or exclusion. If no organic trouble of any kind is discoverable, all purgative measures are discontinued tentatively. The diet should contain vegetables, cereals, fruits, and an abundance of fats. Stewed fruits are useful, and raw apples, figs, oranges, etc., assist the general treatment. Cold water in preference to hot, is directed to be taken, one glassful before breakfast and two on retiring. Exercise according to the opportunities and ability of the patient, as far as possible outdoors, is very useful. Massage of the abdomen, preferably done by a masseur or otherwise, using the so-called massage-roller, is recommended.

Fleiner, of Heidelberg, considers oil injections a valuable addition to the therapeutics of constipation. The patient is directed to inject through a piston syringe from two to four ounces of sweet oil, which has been warmed to body heat by placing the containing bottle in a vessel of hot water. The injection is given at bed time, and the oil is retained in the rectum all night. In the morning a bowel movement usually occurs. A fountain syringe should not be used, as the rubber soon wears out, and the oil flows too slowly to suit the patient. Hard rubber, glass or metal syringes answer the purpose best. Glass is the neatest, and metal the cheapest. There are, however, cases that do not yield to any of these measures, but, before returning to drugs, the use of the ether spray, recommended by Boas, is advocated. About 100 grammes or 3 ounces of ether are sprayed on the bare abdomen through an ordinary atomizer. This procedure is repeated every two or three days, according to the necessities of the case. The cold produced by the evaporation of the ether acts as a powerful stimulant to peristalsis. When the abdomen is pendulous or when there is diastasis of the recti muscles or floating kidney, a properly made abdominal binder is of great value.

As for drugs, the cascara preparations are usually the most efficient, and the bitter mineral waters are valuable. Eserine, or physostigmine, which has the property of stimulating unstriated muscle, Riesman prophesies, will hold a prominent place. It is usually given in the form of the salicylate in doses of 1-60 of a grain three times a day, either hypodermically or by mouth. The value of strychnine in intestinal atony and constipation needs no special emphasis. (*Therapeutic Review*, Feb., 1904, RIESMAN.)

Dangers in Potassium Chlorate.—Bartholow calls attention to the danger of mistaking potassium chloride and potassium chlorate. As to the latter drug, he concludes that while various laboratory observers have come to the conclusion that it is harmless, still no one of any practical experience can doubt that potassic chlorate may profoundly alter the composition of the blood, and that this alteration may take place suddenly, and after comparatively small doses. In several cases a small dose when taken on an empty stomach has caused death. (*Journal A. M. A.*, April 23, '04.) Cushny, in his well-known text-book, says that the cause of the symptoms in acute and subacute chlorate poisoning is, apart from the salt action, a specific effect which the chlorates have on the red blood cells and particularly on the hæmoglobin. This is seen especially when blood is added to a chlorate solution outside the body, for in the course of a short time the blood assumes a dark chocolate color, and spectroscopic examination reveals the absorption bands of methæmoglobin and often of hæmatin. After a time the red blood cells tend to break up, and the methæmoglobin is freed in the serum. Jaundice is a symptom that sometimes results from the hemolysis. The writer of the abstract has seen one such case resulting from the indiscriminate use of the tablets which had been purchased at a drug store and used ad libitum. The symptom of jaundice was not excessively marked but was present. It soon passed off with the stoppage of the drug. More care should be thrown around the dispensing of this drug than is usually done.

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

Early Inoculated Tuberculosis.—A case of early inoculated tuberculosis of the cheek in a child, aged four years, was recently presented before the Dermatological Society of Great Britain and Ireland. In the center of both cheeks there were patches of tubercular infiltration, the size of a shilling in the case of the larger and older patch on the left cheek, the size of a six-pence in the case of the smaller patch on the right cheek. The older lesion had appeared two years and the more recent one a year previously. The symmetry was peculiar and suggested a common cause for the two lesions, such as the infection by the saliva of a tubercular patient, probably by kissing. The many cases of infection of the wound of circumcision by the saliva of the operating priest in the Jewish ritual gave a complexion to this theory, which derived some support from the history of the case. A young maternal uncle had lived in the house with the patient, and had died of phthisis at the age of nineteen, fifteen months previously. The mother had lost an earlier child by another father of phthisis several years ago.—(*British Journal of Dermatology*, April, 1904.)

Papilloma of the Sole.—In recording his personal case, Dr. T. D. Berry, Assistant Surgeon U. S. Public Health and Marine Hospital Service, refers to the rarity of the literature on the subject and yet to the frequency with which such cases are met with among chiropodists. Warts in other situations are treated at some length, but not much has been written about those occurring on the sole of the foot, where, because of their anatomical position, their root or base is deeper, they are subject to more irritation, and are, therefore, more painful and are harder to get at and to treat than in any other situation. In Dr. Berry's own case the lesion, which he at first supposed to be an unusually sensitive corn, was situated about opposite the head of the second metatarsal bone of the left foot. It returned promptly after trimming, after the use of nitric acid and the first use of the galvano-cautery. The outgrowth from the wart was rapid and the counter pressure from the shoe flattened it out as it would come to the sur-

face. This flattened portion would become the size of a split pea in two weeks, could be easily lifted from the skin underneath and cut away at the narrow base level with the skin. The root, whose stroma was slightly translucent, thus being in contrast with the surrounding skin, was also faintly pink from small blood vessels. The root dipped straight down through the thick sole. The wart acted like a foreign body, keeping up a constant irritation in that part of the foot, which was painful on pressure and slightly swollen above the surrounding tissue.

Finally every vestige of the wart was removed by the Paquelin cautery, by burning entirely through the skin of the sole and into the fatty cushion beneath. There has been no return for six months.—(*Journal of Cutaneous Diseases*, May, 1904.)

Rare Bromide Eruption.—Dr. Lotta W. Myers reports a case of rare bromide eruption in an infant, female, six months old. December 2, 1903, potassium bromide in 2-grain doses was given every three hours for a slight intestinal disturbance. Two days later rash appeared resembling varicella, which continued to appear and develop, though the bromide was at once stopped. By December 15th lesions, in various stages of development, were on the scalp, forehead, both cheeks, the legs from the ankles to the knees and the buttocks. The new ones were small, yellowish vesicles; others were discrete, rounded, semi-firm, of various sizes, with distinct, sharply defined edges and a flat, uneven, prominently raised surface in which were numerous minute pustular points. Those on the cheek were confluent and later covered with a brownish crust. One lesion appeared on the tongue and four weeks after the drug was given a few new ones appeared on the thighs, but these did not run the full course.

Points of interest in the case: Small amount of bromide given; height of eruption not reached until eleven days after discontinuance of the drug; continuance of lesions for four weeks; lesion on tongue; absence of irritation or itching.—(*Journal of Cutaneous Diseases*, May, 1904.)

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HAVE WE YET LEARNED HOW POTENT FOR CURE ARE THE NATURAL PROCESSES?*

A. N. COLLINS,
Detroit.

Have we yet learned how potent for cure are the natural forces?

In reply to this question our answer that we have learned much, with much still to learn, suggests itself.

A glance at our history of progress from the ignorance, superstition and vagaries of our youth, as it were, to the present scientific, rational and efficient ideas which now prevail in the mature manhood of our profession, reminds us forcibly of individual growth in the healing art.

We have but to recall our multitudinous remedies—our implicit faith in their power over disease could we only lay our hands upon the right drug with its specific power to go directly at the malady. To select the proper drug was our problem. We looked upon disease as an entity—as a sort of possession—a foreign something that must be antidoted, killed, eradicated. We fought symptoms and forgot causes. This illogical conception of our

youth, with our heroic and unwise efforts to combat disease, led to that system of medicine founded wholly upon the treatment of symptoms by doses so small that no violence could follow their use.

Homeopathy elaborated a system which enabled the astute reader of symptoms to unerringly select the yellow terrier for the yellow rat, the red terrier for the red rat, or the black and tan for the black and tan rat; and each color would attend strictly to his own business and let all other rats, for which he was not trained, alone—avoiding a general rat fight in the human economy.

Fortunately for the welfare of the human race, if properly chosen, a *very* small dog was needed—a dog *so* small that a multitude of his barks and bites could not at all interfere with the *natural processes* of cure which countless generations had developed for the protection and preservation of the race. This beautiful system, at one sweep, did away with all empiricism, all uncertainty, all possible chance of failure, and saved the mental wear and tear of deciphering causes and

*Oration on Obstetrics and Gynecology, delivered at the Annual Meeting of the Michigan State Medical Society, Grand Rapids, May 27, 1904.

conditions—truly a beautiful, plain and easy method of curing all our ills that have so taken up the energies and exhausted the resources of our best brain efforts up to this time.

This ideal system, unfortunately, lacked in one particular. It had the unfortunate defect of *not being true*. It is not my purpose to attack or belittle this system of medicine, upon which is theoretically based the practice of a large and respectable number of physicians to-day—but nowhere can we find a more forcible illustration of the curative potency of natural processes than in the history and effect of this system when practiced as its founder and prophet taught. It was developed at a time when heroic interference with natural processes, as practiced by regular medicine, was rampant; when emptying the veins of their vital fluid and loading the debilitated organism with all manner of practically unknown mineral and vegetable disturbers was the rule; when if a little of a drug was good, more must be better, was common logic; when the physician's business was to do something heroic to the patient, no matter how unwise that something done might be to the delicate adjustment of natural forces.

The beneficial results to the patient of introducing this imaginary yellow dog to shake the life out of the imaginary yellow rat, permitting the natural processes to perform their work unhampered by bungling, injudicious interference, was *so pronounced* as to make the imaginary dog and imaginary rat a reality to the most careless observer and fix upon medicine a sophistry which is *only* valuable for the lesson it has taught and which is, as yet, not wholly learned. If it helps teach us to respect the curative potenti-

ality of natural processes and to keep our crow-bars and sledge-hammers out of the delicate wheels of our human watch, to interfere with that wonderful balance of physiological function only when we know what we wish to do and why we do it, our lesson will be better learned.

We have a still more modern and equally efficient example of the curative potentiality of natural physiological processes in that new appeal to the credulity of the afflicted, termed "Christian Science," which, as Mr. Dooley has said, is "neither Christian nor scientific."

In this ethereal system we haven't even the imaginary dog and the imaginary rat to disturb the natural curative tendencies—a system which, in some form, has existed since the earliest times, in one way or another—dependent wholly upon the superstitions of its adherents. We see it in the incantations, amulets, shrines, images, spiritual exorcism of savagery which has followed *pari pasu* the study and practice of medicine down the ages.

Why has a system of treatment that is devoid of all semblance of active power to assist natural processes to regain a physiological equilibrium when awry so impressed the people? Its followers are numbered by the thousands and among them are found men and women ranking very high in intellectual power. Simply because the prayers and incantations of its practitioners have given the natural curative processes an uninterrupted opportunity to perform their work, with the emotions, anxieties and imaginations of the patient set at rest. The followers of the system have simply placed the credit for the cure in the wrong place. When there is real disease, when there is disease that needs the active interference of rational medicine and surgery to assist these

natural processes, there is failure. But in fads and pathies, as you all know, one success is more blatant than forty failures, and the people deceive themselves.

You all know how very difficult it is for us to determine the true value of a medicine, or a method in assisting the natural processes to overcome pathological conditions, which are mostly either physiological processes out of balance, or physiological processes interfered with by adventitious forces. Nothing requires a more logical or, I may say, Darwinian, mind than the determination of how much our remedy or method has truly assisted the natural processes. With all our powers of trained observation, with centuries of thought along similar lines behind us, how difficult it is to determine the true helpfulness of our medicines and methods. How prone we are to see results that we are looking for and anxious to see, and how often we see what further study and further observation compels us to admit was simply our own credulity—see what never existed in fact. Can we, then, wonder that the lay mind is easily impressed and easily deceived in attributing cures to this system or that system which were simply cures due to natural processes.

In "Christian Science," so misnamed, we have a lesson to learn. We have one more illustration of the curative tendencies of natural processes. Let us take a leap backwards a century. Let us glance at the methods of interference—at the methods then in vogue of combating disease. Let us glance at the pints of blood removed from the sufferer; let us taste the vile decoctions, of which they knew little, gathered from the ends of the earth, poured by the cupful into the delicate machinery of the organism of which

they knew less, forbidding the fever-parched victim—about the only remedy safe in their hands, water—water, so much needed to fill the empty tissues which their ever-ready lancet had drained; water, so much needed to carry on the vital and chemical activities of the body.

Possibly this is a diagrammatic picture of that age of heroic interference, but *too* near the truth. Who among you were he fever-parched and racked with pain, would not gladly welcome the small yellow dog of Hanneman or the soothing prayers of Mrs. Eddy, if they would only keep from your sick bed old Doctor Vein-ripper, who would call in consultation Drs. Hydrag, Aloes, Jalap and old Dr. Dryasdurt, and give the natural curative forces, developed by countless generations of similar combats in your ancestors, a chance to develop in your blood a serum that would destroy the germ at the bottom of your misery. Who among you would hesitate as to choice?

I fear Mrs. Eddy would get the fee and the glory and the credit for all your relief, and our natural curative forces would still continue to do the work.

A glance backwards of a century teaches us much. It makes us proud of what we have achieved—and we have achieved much. We have learned much of this lesson. Have we learned it all? When we consider the bungling interference, the heroic measures of a hundred years ago and the more conservative and rational procedures of today, we might say we have at last gotten to a proper conception of our function in medicine; very largely to assist the natural processes in effecting a cure; to prevent deleterious forces from interfering with natural processes; to correct faulty environment, and

to determine what influences are most favorable to the restoration and maintenance of normal functions; to excise members diseased beyond hope of regeneration and anticipate conditions that may prove deleterious to life, usefulness and happiness.

This we conceive to be our duty. How best to attain our object, our methods of assistance, our judgment of when to interfere and when to keep our hands off, constitute the very quintessence of our science and art. To know when to interfere, and when to let alone, we must have a clear idea of how potent and how impotent are the natural processes to restore abnormal conditions. We must know how to assist along natural lines the great and delicately adjusted mechanism of physiological function, without injuring our machinery in one part more than we help it in another.

In the past the whole machine was injured in the vigorous attack upon the diseased member. To allay a local inflammation, the vital fluid was drawn away, to the detriment of every other organ in the body. To avoid crippling, machinery usually competent to care for itself should be our constant study.

In *this* department of obstetrics and gynecology and gynecological surgery and medicine, are we sufficiently alive to this question of natural curative potentialities? In the practice of obstetrics "They also serve who only stand and wait." This quotation must have been penned largely for the benefit of the obstetrician. It has often come to me as I have witnessed the frantic efforts to deliver long before the natural processes had prepared the parturient canal for the safe and natural passage of the child. In no branch of medicine does

patience seem to be more virtuous than in obstetrics.

I grant you there are cases—abnormal ones—where to have a giant's strength seems to be a "consummation devoutly to be wished," but for the vast majority of cases I would select the most puny weaklings whose pull would be limited to about forty pounds, for my obstetricians. I would limit this pull to a point that would necessitate a proper adjustment of diameters before delivery—to a point where the delivery could not take place until the natural forces had kindly adjusted, either assisted or unassisted, the diameters, and delivery made as easy as proper adjustment could make it.

To seize a head with forceps and drag it in ten or fifteen minutes through a canal that requires from two to four hours to be properly relaxed is cutting short the period of pain—but usually at fearful cost. In no department does the homely saying, "Give Nature a chance," deserve more to be emphasized than in the ordinary confinement case. So long as there is reasonable progress, so long as there is marked rigidity of the soft parts, so long as the proper relations of diameters have not been assumed, so long as there are not plain and unmistakable indications for active interference, give natural forces a chance to perform a function that, in the vast majority of cases, is a purely physiological one and needs no crow-bars thrust into its delicate and wonderful machinery.

In each obstetrical bag there should be a small placard bearing the inscription, "No admittance except on business." This should be taken and hung in a conspicuous place and carefully scanned during a large part of the waiting period.

Forceps are invaluable, when needed,

but in very many cases where they are now used they are more valuable lying in the tray than in active service.

When needed, they should be used gently, and the delivery should be slow. I am convinced we do not take sufficient time, as a rule, to permit a proper relaxation. Five minutes is a long time when you sit with hands on forceps. Nature is not in such a hurry. Remember you are assisting nature—not taking her job entirely off her hands.

Some day in the future, an orator in this section will be poking fun at us for some of our struggles with the forceps and may ask his neighbor how those fellows thought the population ever increased before those tongs were devised.

I am afraid we have something still to learn about the natural curative powers along these lines. It requires more wisdom to know when to use them, to know when to interfere, when and how to assist, than we possess. We have something to learn here. And, when we have delivered, let us not forget, in our exhausted state, that from whatever cause, avoidable or unavoidable, there may be tears in the mucous membrane, muscular or cellular tissue, that to carefully cleanse and gently draw together thereby eliminating the ever present dangers of an open wound, is assisting natural processes in a most logical manner. Our placard will admit this—this is our business.

In pelvic surgery, in the past and now, we need to repeat our query: "Have we yet learned how potent for cure are the natural processes?"

Could we know how many women are unnecessarily unsexed, maimed and unnatural that, had they not been made stepping stones to reputation and sacrificial

offerings to both embryonic and matured surgeons, would be now well, natural, unmaimed and happy, we would blush for our profession. Nor has it, I am glad to say, in most instances, been a mercenary procedure. It has been because we have not sufficiently recognized the curative powers of nature and have never permitted these cases the opportunity which alone was needed to effect a cure. In young women the tubes, ovaries and uterus should be removed only when life is seriously threatened and all other means of effecting a cure—including several years' time—have been exhausted. There is one truth that surgeons are apt to forget—that they can always cut them out, but *never* restore them. Therefore, unless life is threatened, 'tis better to wait. There may be many dangers in waiting—there are many dangers also in operating. They do not all recover from an operation of this magnitude. Because we can do the operation more safely than formerly is far from absolute safety. To remove the tubes and ovaries imbedded in a mass of acute inflammatory new formation is probably more dangerous than to permit natural processes to remove the new formation, which they in nearly all cases surely will if permitted to do so.

In the great number of young or middle aged women infected by the gonococcus, or infected from retained secretions, or from abortions, these new formations, in time, disappear, and not a trace of the former disease can be detected in a few years.

Because a surgeon can remove these organs relatively safely is no reason why he should do so unless it is urgently demanded to save life. Who among you of experience along these lines—I speak

of inflammatory pelvic conditions—has not seen cases of large pus tubes and a pelvis full of new formation, that refused operation, go on to complete recovery in a few years. I have one case that, less than two years ago, was informed by two of our leading surgeons that she must be operated upon at once. She had an infection, probably pus, in both tubes, uterus firmly fixed and pelvis full of inflammatory new formation. From my experience with similar cases I was compelled to say I thought her chances better without the operation, in her condition. A few weeks of simple treatment, a discharge of pus per uterus, and she was better. A few days ago, examination revealed only a very slight thickening on the left side of uterus; uterus movable and patient enjoying good health, normal in body and mind.

Lawson, Tait and others led us to believe we were guilty of malpractice did we not immediately remove pus tubes. In 1890 I saw a case, presumably infective in origin. Pelvis full of inflammatory new formation, undoubted pus tubes, both sides. I recommended an operation—I knew no better then. A surgeon was called. He also recommended removal of tubes and ovaries as the only means of saving her life. She refused operation—pus discharged through uterus—three or four months of invalidism; gradually grew better under simple treatment. Five years after I examined her and not a trace of the former trouble could be found. She is well to-day and is normal in body and mind.

Did time permit these cases could be multiplied. True, some might die—some will die if you operate upon them. Some

will develop an abscess, which can be drained below with organs preserved, and complete recovery. They can be operated upon, the organs can be excised at any time if, after careful consideration, it is deemed wise, but once excised they can never be restored.

A young woman with uterus and adnexa removed is, at best, but a pitiable wreck. I have had some under observation for several years and, though the operations were a success, the result is most deplorable. I believe more will live if taken care of by the natural curative forces, assisted by less radical means, than will live when operated upon in this acute inflammatory condition.

This does not apply to malignant conditions taken early, or to degenerative processes, or tumors, as a rule. The brilliant work of our surgeons in timely operations upon acute appendicitis, strangulated hernias, wounded intestines, ectopic pregnancies, infected gall-bladders, early malignant growths, dermoid cysts, and some other conditions, all demanding immediate and skillful operative procedure has, I fear, led us astray as to the best manner of dealing with these inflammatory and mildly septic affections of the uterus and appendages. We have a lesson here yet to learn. Many are sacrificed that would recover. All are maimed and life made "imperfect, incomplete and unfinished."

It requires more ability to know when than how to operate. Skill can be acquired more easily than wisdom.

It often requires more professional integrity and manliness to advise against than in favor of an operation.

A MESSAGE FROM THE CLINICIAN TO THE
LABORATORY WORKER.*DAVID INGLIS,
Detroit.

In the remarkable progress now going on in all branches of scientific knowledge, medicine certainly is taking a most notable part. I am inclined to believe that the astronomer, the geologist, the naturalist, all inevitably find that their lines of investigation seem to lead to the study of biology. The preparation for life in this planet, the possibility of life on others, the history of life on the globe and the endless variety of the forms of life, lead naturally to biological problems.

So vast has been the field, so varied the phenomena, that a multitude of minds have laboriously studied and recorded them, until now we are overwhelmed with the known facts and phenomena of biology and the sciences collateral to it.

There can be no doubt of the value of the work done by these observers and experimenters, yet to a large extent we are still at a loss when we attempt to establish the relation and meaning of the recorded observations.

A fact is a fact, but we do not at once grasp its meaning. Out of this there seems to me to grow a somewhat unfortunate state of things. The original observer is apt to take an attitude of mental superiority. "Original research" is to no small extent regarded as the final criterion of scientific standing and ability. The man who establishes new facts in biology, by original research, does a notable thing and a worthy one, yet there is a field even greater. It is to correlate the new

facts with those already known, to explain the relationship of phenomena, and from this to form comprehensive knowledge.

Many, indeed almost all, medical practitioners are, by the very needs and bounds of their daily life, barred out from doing original research in the sense in which the term is commonly used.

The training, the habit of mind which makes a good doctor, is not one which makes an original research man. I know that many a busy and thoughtful doctor goes about, sorry that he has done no original research work, hoping—but almost always in vain—that, some day, he may find time and a place to do original research work.

It may be a comfort to many a man of that sort to recall the facts in regard to Dr. Hughlings Jackson. To-day, and for years, Dr. Jackson stands and has stood as the greatest medical man of Great Britain. Anatomist, biologist, surgeon and clinician, all hold him in the highest esteem, yet he never did any original research work. He was never a laboratory man. How did he win the place? Simply by this: He kept in close touch with the work done by laboratory workers; the facts brought out by original research he appropriated as his raw material; he kept in busy and daily touch with clinical phenomena, for he was a clinician, a marvellously close observer—and then he did that thing greater than original research, he correlated the new facts with those already known; he explained the relationship of phenomena.

*Oration on General Medicine, delivered at the Annual Meeting of the Michigan State Medical Society, Grand Rapids, May 26, 1904.

and biology, physiology and clinical medicine and surgery were transformed and illuminated.

No single man has done more to clear up the subject of epilepsy and all convulsive disorders. No one man has done more to establish the facts and bearing of cerebral and spinal localization. We understand not only the mode of action of brain centers but the physiology of many organs in the body, as we could not do before, because Hughlings Jackson, a busy practitioner, did some *thinking*.

I once had a group of students up at my home for a little heart to heart talk on epilepsy and chorea. While waiting for all to arrive, I read, to those who came early, a letter I had received that day. It was from a doctor who described, in a singularly lucid way, a certain case. One of the students took it up with me, analyzed the symptoms, gave reasons pro and con and formed a beautiful differential diagnosis. It was a work of art. When the others came, he asked me to examine him early as he wanted to keep another appointment. I told him he could go at once. I said, "I've been examining you." I don't know how many facts he had stored up, by memory, about epilepsy and chorea, but I knew he could do that greater thing, he could think.

To the clinician, to the hard working doctor, there is also this to be said: clinical observation is, in itself, one of the most important forms of original research.

I said in my opening paragraph that medicine to-day is taking an important part in scientific progress, and then led up to the study of biology. But all clinical medicine is a study of biology. The doctor at the bedside or in his office is — in a typical laboratory. Leisure he

has not and no great apparatus, but if the doctor be gifted with close observation and records accurately what he sees, he may be doing very remarkable original research. And, as a matter of fact, biology has been constantly enriched by the facts brought out by clinical observers.

Being a clinician myself, I have, perhaps, magnified my office, but on behalf of clinicians I wish now to send our message of high appreciation to the laboratory men. The financial rewards of the laboratory man are meagre enough, and fame and glory are his mainly in this small way that a few fine and capable men in his own line of work know the value of his work and appreciate it. He may, and does, win the esteem and admiration of a great many clinicians, but to the world at large his fame is quite incomprehensible.

It is a fine tribute to the quality of the human mind that there are original research men—men who enrich life and save it and ennoble it, not for gain, but for love of truth and the joy of knowledge.

I wish to-day to give what seems to be a remarkable illustration of the value of the work of the man of original research, and yet the account will show very clearly of how great value also is the work of the clinical observer.

The clinical observer began it long, long ago. Long ago medical men noted that the phenomena of tetanus came on at a considerable period after the infecting wound occurred, and a crude therapeutic measure was proposed and more or less practiced. A tight band was placed on the wounded leg or arm. There was a vague idea that this would keep the poison from reaching the nerve cen-

ters. It practically came to nothing. Now nothing is more certain than this, that the blood and lymph circulation is very rapid indeed. We expect the influence of chloroform to begin very quickly after it is inhaled. The blood carries it from lungs to brain in a few seconds. So with a hypodermic of morphia—before the physician has well cleansed his needle the patient's pain is gone—lymph and blood carry the drug to the nerve centers in a minute or two. Either the poison of tetanus must have a long period in which to multiply itself or it must go but slowly toward the nerve centers. For years the period of incubation has been attributed to time required for multiplication of the poison, yet there has been always a puzzling feature about that theory, for if the wound of infection be on the face or head the symptoms of tetanus develop with great rapidity and are of great severity. It may need but twenty-four hours for the full manifestation of lock-jaw in such a case, while a wound in the foot may require three weeks to start the disease.

Last year Meyer and Ransom showed, by a series of experiments, that the tetanus poison finds its way to the centers in spinal cord, not by the blood and lymph circulation at all, but in a totally unsuspected way, by the axis cylinders of the motor nerves. It was proved that a poisonous dose of tetanus poison, injected directly into the circulation, did not immediately produce the symptoms of tetanus, but that the poison must be taken up by the end plates of the motor neurons on the muscles, travel up the axis cylinders and so reach the cord.

While the motor neurons run their entire length in nerves well supplied with blood vessels, the poison is not taken up

along the course of the axis cylinder. The motor cells in the cord are also supplied with blood, but they too seem to be unable to take the poison out of the blood.

If, however, the poison be circulating in the blood, and the spinal cord be wounded, say by a needle, then the poison can find direct access to the cell bodies and a localized tetanus be set up promptly.

We see now why tetanus symptoms occur so rapidly if the wound of infection be on the face. The axis cylinders have but a short course to run; furthermore, the poison reaching the cord near the medulla we can at once understand the almost inevitable fatality of tetanus from face wounds.

Again, we have very clear light thrown upon the practical failure of tetanus antitoxin in every-day practice.

The laboratory workers have not only demonstrated the bacillus of tetanus but they have given us an antitoxin which positively counteracts the toxin in the laboratory. An animal receiving a proper dose of antitoxin is safely immune to a subsequent injection of the toxin.

It works. But in actual practice so far, the antitoxin has failed lamentably. Meyer and Ransom have shown us why it fails. Were the poison of tetanus in the blood or lymph channels it would be easy to throw in antitoxin to neutralize it, but the toxin has been slowly travelling up the axis cylinders for hours, or many days, before the antitoxin is administered. It is now a stern chase and a long one. The antitoxin must travel up behind. So complete is the insulation of the axis cylinder that a rabbit made thoroughly immune dies of tetanus as if it had had no antitoxin at all, provided the tetanus toxin be injected into the nerve directly.

As bearing upon this, I desire to call attention to the recent article by Eisendrath of Chicago upon the treatment of wounds likely to cause tetanus. He advocates laying the wound wide open, cleaning out all shreds of tissue, all soiled tissue, making a clean wound and *leaving it open*—a most wise suggestion in view of what we now know of tetanus.

Realizing this, the newer procedure seems to hold out more hope at least. To neutralize any toxin still remaining in the blood, give antitoxin by ordinary injection, but to get ahead of the toxin still making its way up the axis cylinders, make a thorough injection of the antitoxin into the main trunk of the nerve, high up. As, however, we are usually called upon to treat tetanus after the poison has reached the cord, the plan of subarachnoid injection seems by far the most promising. Fortunately, the abundant experience in lumbar puncture for anaesthesia has demonstrated that such a procedure may be freely done in tetanus.

The tetanus antitoxin seems also to be devoid of injurious effects. Whatever may be the subsequent experience, this much stands out pretty clearly. Instead of waiting until tetanus is developed it would seem to be rational treatment to give an immunizing dose of antitoxin in all cases of wounds of such a sort as to indicate fear of tetanus. While the toy pistol ought to be legally impossible, at least as long as their manufacture and sale is permitted, every child wounded by one ought to have a dose of antitoxin at the earliest moment.

Wounds made by anything which has come into contact with manure ought to be regarded as suspicious.

I have thus brought before you the

latest developments in the history of tetanus, as a striking illustration of the clinical value of the work of the laboratory worker.

If tetanus shall be robbed of its terror, as diphtheria has been, we shall again owe an immense debt to the laboratory workers.

Since Meyer and Ransom's work, Dr. Meltzer, of New York, has published an account of a simple little laboratory experiment. Methylene blue, injected into the circulation, stains the tissues of the body blue during life.

If a single ligature be placed on the sciatic nerve of a dog and then methylene blue injected, the axis cylinders in the nerve, both above and below the ligature, are stained. If, however, two ligatures be placed on the nerve, say three or four inches apart, the remarkable result is this: the axis cylinders in the space between the ligatures are not stained. The experiment is simple—the conclusions to be drawn from it remarkable. The nerve in the space between the ligatures is well supplied by arteries and lymph channels, yet the axis cylinders take up no methylene blue from the blood in the capillaries alongside of them. We have long regarded the white substance of Schwan as a medium for insulating the axis cylinders enclosed in it; we have thought that it prevented lateral diffusion of the nervous impulses. It now appears that it also insulates the axis cylinders so completely that not only tetanus poison but methylene blue cannot reach the axis cylinder.

Strangely enough, Meltzer's experiment confirms Meyer and Ransom's—illuminates them clearly—the methylene blue gets into the axis cylinders only at the ends of the axis cylinders and travels both up and down.

Instead of regarding the axis cylinder as a solid structure, we are now compelled to believe that there is going on in it a constant flowing both up and down. At a symposium on the Neuron theory, a few months ago, I had the temerity to say that, as far as results went, the Neuron theory had accomplished nothing. I was somewhat severely criticised for my heresy, although my critics failed to specify what it had accomplished.

To-day, in view of the laboratory work of Meyer and Ransom and Meltzer, I take off my hat and acknowledge that the Neuron theory has cleared up our knowledge of tetanus and has given us reasonable hope of successfully combatting it, and has opened up a field for study, experiment and observation which is exhilarating.

If poisons enter the axis cylinders at the ends only, it is not difficult to believe the food substances do the same. Conceiving of poisons being carried up and down the axis cylinders, some mysterious problems become clear.

In Laundry's paralysis we have a disease, it would seem, in which a poison

(directly opposite to that of tetanus in the effects) enters the motor nerves at their outer extremities, travels slowly upward; paralyzing the motor nerves as it goes, enters the spinal cord and slowly travels up the spinal neurons until it reaches the medulla and death ends it.

A patient starts with a peripheral neuritis. The diagnosis of neuritis is correct, yet we have an ascending neuritis, and by and by we have a myelitis, and the doctor is blamed for a wrong diagnosis. The ways in which this thing opens out are many—too many to be entered upon here. I have alluded to a couple of them. Almost everything that has been told of tetanus holds true of rabies.

Occupation neuroses, progressive muscular atrophy, the inter-relation of muscular use and disuse, and the health not only of muscles but of the spinal cord—all these problems are illuminated by these laboratory experiments. In their final solution both clinician and laboratory men should co-operate.

The work is wonderfully attractive, and the results so far won only make suggestions for greater work to do.

PROPHYLAXIS AND TREATMENT OF PUERPERAL INFECTION.*

J. G. LYNDS,
Ann Arbor.

I present this subject for your consideration to-day because of its great importance to the general practitioner who has the responsibility and care of so many pregnant and parturient women.

There is much concerning the disease

of which we still know little, much that must be slowly put together, piece by piece, before our knowledge of it will be complete. Every year some new facts are brought to light concerning it and every year the dangers attending maternity are diminishing. The disease can never become the terrible scourge it was

*Read before the Eaton County Medical Society, April 28, 1904.

40, 50 or 100 years ago, when it so often followed the accoucher about from confinement to confinement like his shadow, truly a shadow of death, and compelled the closing of hundreds of maternity hospitals, because thus only could its terrible progress be stopped.

When its true nature was suggested by Holmes, a world of light opened upon us, and when Lister suggested methods of controlling and preventing it, he bestowed upon us one of the greatest blessings it has ever been the privilege of man to bestow upon human kind.

Through the suggestions of these men, thousands upon thousands of women have been spared unmeasurable suffering and an untimely end, and thousands of infants have been spared who must otherwise have found an early grave. To-day comparatively few cases occur in hospitals, by far the greater number occurring in private homes. This of itself demonstrates the value of prophylaxis as it is carried out in hospital practice.

If a woman enters upon her confinement free from local and general disease there should be no infection during the puerperium, and should it occur it must be the fault of her surroundings or attendants. To be sure that no local or general disease exists it is necessary to have these patients under observation some time previous to confinement. The condition of the lungs, heart, digestive organs, kidneys and pelvic organs should be investigated. It is much more satisfactory if this can be done early in pregnancy as then one can best judge what is likely to have been caused by the pregnant condition. The urine should be examined once a month up to the sixth month and then every two weeks. It

should be examined for albumen, sugar, bile, casts, pus and the amount of urea.

Periodical examinations of the patient should be made, examining especially for evidence of gonorrhœa. If such evidence be found vigorous treatment should be instigated and continued until such evidence is removed. Thorough cleansing of the vagina and vulva, painting the cervix, cervical canal, walls of vagina and vulva with a solution of protargol, silver nitrate, or picric acid, and frequent cleansing douche of bichloride of mercury, potassium permanganate, boric acid, or some allied substance should be carried out.

I always dread a confinement where gonorrhœa exists or has existed in the woman or her husband, even though it may have been apparently cured. Such cases are likely to develop sepsis or some chronic inflammatory condition. Whether the gonorrhœa remains in the uterus or vagina in a latent condition, or whether it exists in this form in the urethra of the husband, it is difficult to say, but that it does often so exist in one or the other, or both, there is little doubt, and the condition existing in the uterus for some time after delivery are conducive to its development in the more virulent form. If present in the vagina at the time of labor rapidly developing sepsis must be expected. If introduced some weeks after, endometritis, salpingitis, pyo-salpinx or pelvic abscesses are probable. If albumen and casts are persistently found in the early months, it is altogether probable they were present before pregnancy, and any attempt to carry the patient to term is likely to result in disaster.

Diseases of the lungs and digestive organs must be treated on general principles. When organic heart lesions pro-

duce serious symptoms, I believe it wise to terminate the pregnancy in its early stage. A chronic pustule, or an appendicitis, is an uncomfortable and dangerous condition to exist with pregnancy, and if discovered in the early month should be removed by operation. If not discovered or when occurring late circumstances must determine whether it is better to temporize or operate.

Cleanliness is the keynote in the confinement chamber. Everything about the patient, the bed and room, should be as free from septic material as for an abdominal operation. The physician and nurse should observe the same precautions against the introduction of septic material. They should be clean. A gown to completely cover the clothing is a safeguard to the patient and a protection to the clothing. The hands and arms above all other parts should be clean.

The patient should be as carefully prepared by a full bath and clean clothing. The vulva and adjacent parts should be thoroughly cleaned by soap, water and some antiseptic solution. These parts should always be considered septic and treated accordingly.

I do not consider it good practice to douche or scrub beyond the vulva unless septic material is known to exist in the vagina. When this is true, however, every effort should be used to get rid of it before the uterus is emptied.

Vaginal examinations should not be made more often than necessity demands, and a thorough cleansing of the hands should be made before each and every examination.

An obstetric pad, while not an absolute necessity, is a great convenience, a great saving to the bedding and an additional safety to the patient.

After delivery of the child the vulva and vaginal should be inspected, with a good light, and if any lacerations are present they should be properly sutured together. I do not believe lacerations of the cervix can be properly repaired in the great majority of cases immediately after delivery, and unless it be necessary to pass sutures to control hemorrhage, I consider it poor practice to meddle with it. I never douche out the vagina or uterus even after manual or instrumental manipulation unless I am assured there is some septic matter therein, and never permit the nurse to douche unless the same be true. The nurse should wash the external parts with an antiseptic lotion several times a day, especially after urination or defecation, and replace the aseptic dressing as often as it becomes soiled, taking the same precautions about disinfecting her hands that is taken during labor.

The only medication I prescribe regularly is quinine. This I give in 5 or 6 gr. doses, night and morning, for the first six or seven days. I believe it stimulates the uterus, guards against hemorrhage and possibly in other ways fortifies the system to some extent against infection. Ergot and strychnine are given when indicated as is any other medication.

TREATMENT OF INFECTION.

The indications once the infectious matter has gained entrance are: first, remove the source of infection; second, destroy the germs in the system and neutralize or eliminate their toxins and support the patient's vitality.

(1) *Remove Source of Infection.*—As this takes place through the genital tract it is here we endeavor to discover the point of entrance. This may be through lacerations or abrasions of the

vulva, vagina, cervix, or uterus, and each should be carefully examined. The point of entrance often presents a sloughing surface, frequently resembling diphtheritic membrane, but frequently no distinguishing point is found. Where such is found it should be cleaned, cauterized and kept clean. The interior of the uterus should be examined for retained secundines or clots, and if found should be removed by finger, curette or forceps, the uterus thoroughly washed with normal salt solution and finally with some antiseptic, my preference being for a mild iodine solution.

I believe it good practice to clean and wash out the uterus in every case, as there is always some dead tissue which is easily washed away and its removal must lessen the dangers of infection of this cavity, even though none exists at the time. It is hardly necessary to say that care must be taken against conveying in septic material during this procedure. I have a decided preference for the curette-forceps and curette, there being less danger of carrying in septic matter and less traumatism of the tissue. There is no necessity of curetting deep enough to open up new avenues of infection if the operation be properly done and I have found frequently repeated washings and light curettings of decided value where a necrotic endometrium was present. Drainage by lightly packing the canal with a strip of iodoform gauze will be beneficial in many cases. Some advocate opening the posterior cul de sac and packing with gauze, but I consider this of doubtful utility unless the pelvic peritoneum be already infected.

Hysterectomy has been tried to meet this indication but has not proven satis-

factory. After the infection has passed beyond the uterine walls or tubes into the cellular tissue and blood, it probably does harm instead of good, as it can only remove a small portion of the infection, and before this occurs it is too early to consider the case serious enough for such a radical operation. It certainly is not indicated in sapremic cases, as removal of the decomposing matter is all sufficient. There may be exceptional cases where its indications are fairly clear, but probably many more lives have been sacrificed by this operation than have been saved.

(2) *Destroy the Germs in the System, Neutralize and Eliminate Toxines and Support Patient.*—When the trouble is produced by decomposing clots and the general symptoms are sapremic, a single cleaning out of the uterus will as a rule speedily result in the disappearance of all the trouble. When septicemia exists, however, and the infective germs enter the fluids and tissues, multiply therein, go to all parts of the body, and produce their toxines, the problem is a more serious one. How to prevent their development or destroy them without fatal injury to the body structure is a problem as yet unsolved. The recent report of the successful introduction of formaldehyd into the blood for this purpose, to the contrary, notwithstanding. Antiseptics, while of the greatest value to destroy germs on the surface, or wherever sufficiently strong solution can be brought in direct contact with them before they enter the tissues, are useless here, because, any at present known will do quite as much damage to the body structures as to the germs—in fact many germs are more resistant than the body cells. To a limited extent, we know, these body structures are capable

of combating this germ invasion, and our greatest hope, it seems to me, is in supporting and strengthening this power instead of weakening it by introducing poisons.

For this supporting action plenty of good nourishing food and stimulants have first place—strychnine, digitalis and ergot have been largely used and as frequently indicated quinine and iron are old and long used remedies for this disease and are probably of greater use as supporting agents than as antitoxines. Whiskey and brandy, I believe, should be given freely, especially if little food is taken. Of late years I have used protoneuclein in these cases and also after operation where sepsis is present or feared, and I have more faith in it than any one remedy. It probably acts as a food and stimulant to the body cells rather than an antitoxine.

Antistreptococcic serum is advocated by some but I have never been able to get any satisfactory results from it and I believe my experience has been the experience of the profession generally.

Elimination of the toxines should be obtained by frequent evacuations of the bowels and free diuresis. The latter is best obtained by the free use of normal salt solution given by the bowl, subcutaneously or intravenously, according to indications. The temperature should be con-

trolled by sponge baths and icebags, but never by antipyretic drugs such as acetanilid, antipyrin, phenacetin, etc.

Collections of pus which frequently occur in the later stages of the disease should be evacuated, but if any operation is undertaken while the septicemic stage is active, it must be urgent and is generally attended with great danger.

Convalescence after severe attacks is always tedious and I believe few, if any, regain their former health and vigor.

RECAPITULATION.

To Prevent Sepsis.—Bring the patient to confinement in the best state of general health possible.

Observe surgical cleanliness during labor and the puerperium.

Repair lacerations likely to become infected.

Leave the uterus free from secundines and clots.

Fortify system against infection.

To Treat Sepsis.—Prevent absorption of more infectious material.

Destroy the germs in the system and eliminate the toxines.

Support the vitality of the patient and increase the power of the body cells to resist germ invasion in every way possible.

Control temperature by sponge baths and ice bags.

Evacuate collections of pus.

Operations for Prostatic Hypertrophy.

Conclusions:

1. The total removal of the gland by the best of the perineal technique is that of choice.

2. When any condition is present which makes the perineal operation too difficult of performance, or when there is a contraindication of any sort to its application, the supra pubic operation is the operation of choice. When contraindications are present which make the above operations undesirable, the Bottini becomes the operation of choice. When the patient's condi-

tion is such as to make any of the three operations mentioned above inappropriate, and when we are obliged to do something, we should do a palliative operation for drainage.

3. Cystoscopic examination should, when it can be readily done, precede operations of all sorts in which there is any doubt as to the exact nature of the hypertrophies. The use of the cystoscope is essential to the proper performance of the Bottini. (*Annals of Surgery*, June, 1904, FRANCIS S. WATSON).

THE PRESIDENT OF THE MICHIGAN STATE MEDICAL SOCIETY.

Dr. Beverley Drake Harison was born at Canton, St. Lawrence County, N. Y., in 1855, being the second son of Minturn Harison of New York, who married a daughter of Judge Caleb Beverley Drake of Ithaca, N. Y. He comes of old English and colonial stock, being descended in direct line from James Harison of Cumberland, England, who married Margaret, daughter of Sir John Bourclaire, whose great-grandson, Thomas Harison, of East Court, born 1530, married Alice, daughter of Sir Richard Warde, of Hurst, and their grandson, Sir Richard Harison, of Hurst House, Hurst and East Court, Berkshire, and a member of the Privy Chamber in Ordinary to King Charles the Second, was the grandfather of Francis Harison, who settled in New York city October, 1708, and who on April 21, 1720, by a warrant under the Privy Seal was sworn in as a member of the Council of the Province. His son George, born 1719, married Jane Nichols, in direct descent from General Sir Richard Nichols, first governor under the English of the then North American Station, and who named New York in honor of his commander-in-chief, the Duke of York, in 1664. The Dutch bourgermaster, Peter Stuyvesant, with the wooden leg, surrendered to General Nichols. Richard, son of George Harison, born in New York in 1747, and great grandfather of Dr. Harison, was the first U. S. District attorney for New York State and one of the original vestrymen of Old Trinity church, Broadway. He married Frances, daughter of Sir George Duncan Ludlow, Chief Justice of New Brunswick, who in turn was the grandson of

Gabriel Ludlow, who came to New York in 1694. Dr. Harison married, 1889, a daughter of the Honourable James Frederick Lister, K. C., a justice of the Court of Appeal, Ontario, and a blood relative of Viscount Lister, the famous English Surgeon. They have one child, a daughter, Frances Lister Harison.

Dr. Harison was educated at Bishop College School, Lennoxville, and Trinity College School, Port Hope, and his literary course followed in natural sequence at the University of Trinity College, Toronto, and the University of Toronto, from which latter institution he graduated in medicine in 1882. He has been practicing at Sault Ste. Marie in this State since 1887.

In 1898-'99 he as chairman of the Legislative Committee of the State Medical Society, edited and had introduced the Chandler Medical Act. At a meeting of the committees of the several schools of practice he was appointed a committee of one to look after the medical bill in its passage through the legislature, and was appointed by Governor Pingree a member of the first board of 10 members and elected Oct. 10, 1899, by the board as secretary. He was re-appointed a member of the board Oct., 1901, by Governor Bliss, and re-elected secretary. As the chairman of the Legislative Committee of the State Society, 1902-'03, and secretary of the Medical Board, he edited the Nottingham Amendments to the '99 Medical Act and had charge of amendments in the legislature, which became law, Sept. 17, '03. The present Medical Act of Michigan is unquestionably the best medical act in the United States. The preliminary

educational requirements for admission to medical schools are 40 per cent. higher than the N. Y. State medical requirements; also higher than those of other States. The rules and regulations of the Board, methods, and forms edited by Dr. Harison are original and are models of legal exactness and thoroughness and upon a higher plane than those of the other States, so that other States copy Michigan's forms and methods. The complaint at the Chicago meeting of the Confederation of State Boards was that Michigan was setting too high a standard in advanced requirements. Dr. Harison was re-elected the secretary of the Board October, 1903.

The reciprocal exchange of license between States has for a number of years been a very important and complicated question with the medical profession in this country. Up to 1902 nothing of a practical nature had resulted from the many plans proposed by the Committee of the American Medical Association or by confederations of medical boards, further than directing professional opinion—an important factor of course. Indeed at this time the friends and advocates of reciprocity had about given up the fight, as all the plans proposed had been rejected by Boards as impractical. In January, '02, at Dr. Harison's suggestion and call the executive officers of the Wisconsin, Indiana and Michigan Boards met in Chicago with the object of formulating some practical basis upon which medical reciprocity would be possible, with the result of the formation of the American Confederation of Reciprocating, Examining and Licensing Medical Boards. At the present date the following States have membership in the Confederation and are reciprocating one with the other: Wisconsin, Indiana, Michigan, Ohio,

Iowa, Kansas, Illinois, Nebraska, Kentucky, Pennsylvania (Eclectic), Maryland, Georgia and Oklahoma. In addition, Virginia, New Jersey and Maine reciprocate with States in the Confederation. Dr. Harison has been the secretary of the Confederation since its formation, and he is not only to a very large degree responsible for the policy of the Confederation which has demonstrated the practicability of a heretofore supposed impractical question, but he does the necessarily large and ever increasing amount of clerical work connected with the secretaryship in connection with his office as the secretary of the State Board of Registration in Medicine.

As the President of the Upper Peninsula Medical Society, '99, Dr. Harison was solely responsible for the interest and partnership of the State Medical Society is the Beaumont Memorial at Mackinac Island, and as the chairman of the Executive Committee, 1900, he arranged all the details and the program for the dedication of the memorial.

Dr. Harison was Vice-President of this Society, 1900-'01, President and Member of the Board of Trustees of the Upper Peninsula Hospital for the Insane, 1897-1903; and is a member of the American Medical Association; Division Surgeon of the D., S. S. and A. R. R. and of the Soo Line, and President of the Board of U. S. Pension Examining Surgeons.

It is as a slight recognition of this untiring and ceaseless devotion to the interest of the medical profession and to medical education, that Dr. Harison was the choice of this Society for the office of President.

A. P. BIDDLE,
Editor.

The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to Editor A. P. Biddle, 57 Fort Street West, Detroit, Mich.

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JULY, 1904

Editorial

MICHIGAN STATE MEDICAL SOCIETY—GRAND RAPIDS MEETING.

The official reports of this meeting show a progressive evolution of the organized profession. The weather was auspicious, provision for entertainment by the local profession abundant, and kindly goodwill manifest on every side. Those present united in saying, "it was good to be there."

The Council's report showed that financially the net returns for the year left a balance on the right side of the ledger, even more than had been anticipated. The money expended on the production of *THE JOURNAL* was more than the annual dues, the balance as well as the other expenses of the Society being met by the advertising.

Reports from the County Societies showed that two new ones had been added to the list, leaving but two out of the entire State unorganized. It is believed that these will join their fellows in the near future and thus the State be united in fact for the first time during its long history of eighty-six years.

THE JOURNAL speaks for itself—its readers concur in appreciating its constant improvement, as its managers secure better aid from county officials and individual members. Experience exhibits the mutual helpfulness of *THE JOURNAL*, and organ-

ization—a helpfulness that must increase. Monthly *THE JOURNAL* carries a friendly message from each member to all the others, telling of good work done and stimulating better work.

The Council greatly regrets that the Editor-Secretary and his assistants cannot receive a compensation more nearly in accord with the work performed, and congratulates the Society upon this tangible evidence of the spirit of self-sacrifice imperative at this stage of its development. It must be added that the Council refused any return of money expended in making its regular visits to the several Branches, or for other outlays in the doing of its work. The Council asked the House of Delegates to so change the constitution as to eliminate its power of voting in that body, so obviating any power to make the laws which it executes. The reason for this was the experience of a sister State, rather than our own.

The Council reported such harmony in the Branches that no call had been made upon its judicial powers. Such differences as had occurred in the Branches had either been settled by officers and their Councilor or were in process of settlement.

The increase of the sessions from two to three days gave opportunity to discuss papers more at length, to hear the orations and presidential address, and enjoy an increased social commingling. The very scholarly address of Dr. Oschner, of Chicago, on one thousand operations for appendicitis with only two and one-half per cent. mortality, gave unwonted satisfaction. Papers and discussions that had something to say, said it and stopped, met a like reception—a hint to officers of sections and members generally. These attract and promote the objects of the organization.

The reign of "peace and good will" starting with the late Port Huron meeting continued in force, with promise of an immortal career. There were hints that the professional atmosphere of Grand Rapids would prove disagreeable, but on the contrary, it was conducive to the best work and cordial fellowship.

Too much cannot be said in praise of the work of the local committee, headed by its chairman, Dr. D. Emmett Welsh. Convenient rooms for the meetings, excellent hotel accommodations, social recreations, cordial welcome, unitedly, left nothing undone to make the visitors at home in their work and play, the memory whereof will long linger with them.

AMERICAN MEDICAL ASSOCIATION—LATE MEETING.

The Atlantic City meeting of the A. M. A., 1904, surpassed all its predecessors in numbers and interest in scientific work and social fellowship. Nearly three thousand members were registered, the sections each partaking of the enlargement. The section programmes exhibited an untold wealth of clinical observations, and laboratory research. Every portion of the United States was represented, every medical centre, every field of research.

Clustering about the Association meeting was a variety of associated societies, as the American Academy of Medicine, the American Medical Editors, the National Temperance Society, National Life Insurance Examiners, Associations of Councilors and Secretaries of State Societies, etc., etc. Members of the Association are interested in each of these and their convenience is assured by selecting this time for annual meeting.

The programmes of the general meet-

ing were enriched by symposia of outside topics, as the story of research work institutions now operating, told by experts therein, etc. As the general meeting has absolutely no legislative, judicial or executive powers, it needed something to sustain a general interest among members.

Arrangements for registering were well nigh perfect, though the increased attendance far exceeded anticipations. Experience has admirably perfected all details of the management. The feature at the general meeting was the raising of funds for a memorial to the late Dr. Walter Reed—nearly ten thousand dollars within a few moments, and the remainder completed during the session. This honor was earned by a demonstration of a theory that cost his life.

Following the meeting was the dedication of the Rush monument at Washington, erected by the Association. As the place was far from Atlantic City, relatively few could be present, but the lack was supplied by enthusiasm.

To the ceremony of opening the magnificent new laboratories of the University of Pennsylvania at Philadelphia, the entire Association was invited, thus exhibiting the latest model for student laboratory work to representatives of every teaching faculty in the United States. Philadelphia opened all its clinical facilities to the coming and going tide of members, and loaded them with its famed private hospitalities.

The physicians of Atlantic City were untiring in making their guests comfortable, and facilitating the transactions of the regular work of the Association. Each section had a hotel for its members, and a banquet hall for the annual dinner, smokers, private dinners, etc., etc.; also provision for the entertainment of the wives and daughters of members.

Lastly the hotel keepers offered the best they had at regular prices, in contrast with the hotel men of some cities who raised their regular prices to the top limit. Courtesy and accommodation were manifest everywhere. Atlantic City is the place for the annual meetings of the A. M. A., because of its unlimited hotel accommodations, and the fine railway connections with leading trunk lines in every direction. Its close relations to so many large cities makes it also desirable to the profession as a whole, especially when so few in those cities are members of the Association.

The growth of organizations, State and National, render it imperative to select cities with abundance of good hotel accommodations on the great lines of travel. Not a few regret that the next meeting is to be held in Portland, Oregon.

'Tis seventeen years since the Association met in Chicago, more than twenty since it met in New York, and more than thirty since it met in Boston. Why these great centres should be neglected for so long is not apparent. Twice in four years it has met in Atlantic City, with perfect satisfaction to all concerned. May it repeat the visit at an early date is the wish of not a few.

CLEARING HOUSE FOR MEDICAL SUPPLIES OF UN- KNOWN COMPOSITION.

"How does either the State Medical Society or the A. M. A. profit me?" is the question often asked the promotor of organization. Councilors and their allies reply with such facts as exist, but often fail to satisfy the questioner. To aid them it was proposed to have the American Medical Association provide for "the

analysis of medicinal substances of unknown composition," and publish the results. The light of modern research turned upon this dark field must prove helpful to all. It was realized that such research had peculiar difficulties, but it was believed that the Association with its yearly income of about thirty thousand dollars above all expenses, with its large invested capital, with its buildings adjacent to its printing house, with the keenest minds in charge of the business, all backed by a united profession already near fifty thousand, would be able to handle the enterprise with tact, justice, back-bone and horse sense. With such views the Council of the Michigan State Medical Society, suggested to its House of Delegates, that it request its delegates to the A. M. A. to ask that the Board of Trustees A. M. A. be instructed to establish such an "analytical laboratory." The suggestion being favorably considered, Michigan's Delegates to the Atlantic City meeting of the A. M. A. were directed to present and urge adoption of the following:

"Whereas, An exact knowledge of the composition and properties of substances used in the management of disease is essential to a physician's best success;

Whereas, Commercial push, by advertisement and drummers, persuades many physicians (often the very elect) to use and commend drugs, mineral waters, artificial foods, etc., etc., of unknown composition and effects;

Whereas, As it is impossible for the individual physician to verify the statements of sales agents, to separate fact from fancy, he often uses substances quite unlike those indicated, to the discredit of himself and his art;

Whereas, The American Medical Association was organized to promote the ex-

act knowledge and intelligent practice of its members;

Resolved, That the Board of Trustees of the American Medical Association is hereby requested to provide for the analysis of medicinal substances of unknown composition and undetermined effects, and to promptly publish the results in the Association Journal;

Resolved, That the Board of Trustees be requested to appoint a "Journal Clearing House Commission" three in number, to serve without salary, with authority to have analyses made in reliable laboratories, by experts of recognized ability, or to equip a suitable laboratory and employ one or more competent experts, at a yearly expense not to exceed five thousand dollars."

On behalf of the Michigan delegation, Dr. H. O. Walker presented this to the first meeting of the House of Delegates, A. M. A. It was referred to a committee, which gave no hearing to its friends but reported it back to the House. Even there it was not heard, but laid on the table—a scant courtesy to a request from the great State of Michigan.

On the surface it would seem that the A. M. A. as represented by its late House of Delegates, was unwilling to consider an effort to make the Association stronger with the individual doctor by throwing light upon the tools he daily employs. For the Journal it would be a splendid advertisement to undertake the conduct of such an enterprise, for the Association it would mean a vast increase of membership, for truth it would organize a vast army, with its adoption the American Medical Association would leap forward a quarter of a century in a day.

If so disposed the same work could be done by the Association Journal with no

other authority than it already possesses. It is concerned with material that it publishes, and thus has occasion to have investigations made of its composition. The multiplication of such analyses and publication of the results would be all that the Michigan request called for.

DEATH OF G. W. GREEN.

It is with regret that we announce that Dr. G. W. Green died at his home in Battle Creek, May 27, 1904.

Dr. Green was born on a farm in Lake County, Ohio, March 6, 1837. His early education was obtained in the primitive district school. Later he entered Madison Seminary and at the age of twenty he began his collegiate course at Oberlin College. He graduated in 1862 from the medical department of the University of Michigan. He began practice at Three Rivers and after a year was appointed assistant surgeon of the 28th Michigan Infantry by Gov. Blair. He was honorably discharged in 1866, when he settled in Hudson. In 1876, he moved to Chicago where he became a member of the firm of Chapman & Green, manufacturing pharmacists. He continued in this business for 12 years. After taking a post-graduate course in New York, Dr. Green settled in Battle Creek where he has since resided, enjoying a large practice as an eye, ear and throat specialist.

On June 25, 1862, Dr. Green was married to Miss Nancy E. Bugbee, of Niagara County, N. Y. To the couple were born six children, five of whom are still living. Dr. Green was a member of the Baptist church, a trustee of the Baptist college at Kalamazoo, and a member of Farragut Post, G. A. R.

THE DEVELOPMENT OF SPECTACLES.

The origin of spectacles is shrouded in mystery. As Carl Barck* says, even whether the credit belongs to the Mongolian or Caucasian race cannot be certain. Old pictures exist showing Chinese reading with glasses, sometimes held by a cord around the head and again by weights suspended by cords over the ears. Exact data however as to the antiquity of these is lacking so that the priority of the Chinese as to discovery cannot be proven.

A plano-convex lens has been found in the ruins of Nineveh, but whether it was used as an aid to vision or not, does not appear from anything in the literature of the time. The art of grinding spectacles, if it existed at all, was certainly lost. They were unknown to the Hebrews, Egyptians, Greeks and Romans, despite the generally accepted belief that Nero watched the games in the circus through his emerald. It was not until 1276, A. D., that anything definite appears in the literature. Then the celebrated Roger Bacon speaks of glasses which cause small letters to appear large and for this, many are inclined to give him the credit of discovering spectacles. It seems more probable that the honor belongs to one of two Italians, either Salvino d'Armati of Florence or Alessandro della Spina, about the year 1285. Spina was a Dominican monk in a monastery at Pisa. He certainly made and distributed spectacles, whether he learned the art from another or invented it himself. One of the first physicians to take any notice of glasses was Gordon, Professor of Medicine in Montpelier, who in 1305 stated that thanks to his excellent remedies, glasses were superfluous. Unfortunately the nature of these remedies seems to have been lost to the profession

and we have not succeeded in dispensing with glasses yet. The use of glasses spread very slowly, thanks partly to the ridicule to which their unfortunate wearers were exposed and partly to their great cost. Even as late as the end of the 16th century, a pair of spectacles were worth between \$40 and \$75. About this time regular guilds for the manufacture of spectacles sprang into existence. In the earliest designs the lenses were round and enclosed in black horn about one half inch wide. The lenses were united by a leather band and another around the head served to keep them in place. Nose glasses first made their appearance at the beginning of the 17th century. The earlier lenses were ground out of a smoky colored stone berillus, hence the German "Parillen," later "Brillen." Glass was soon substituted and Venice became celebrated for her spectacles. Only convex glasses for reading were known up to the beginning of the 16th century. One of the first to wear concave lenses was Pope Leo X, who used them while hunting. His portrait painted in 1517 by Raphael shows these glasses in his hand. In the latter part of the 18th century Thomas Young, studying his own eyes, made out astigmatism as it is now called. The astronomer George Airy found a correction for this defect in cylindrical glasses which he had made for him by the optician Fuller, at Ipswich, in 1827. Independently of him, and only a year later, McAllister of Philadelphia ground cylindrical lenses. The so-called bifocals were invented by Benj. Franklin, who clearly describes them and speaks highly of their convenience in 1785. As used by Dr. Franklin, they consisted of the halves of two lens of different focal lengths placed one above the other in the same frame. Only relatively slight modi-

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fications of this are available to-day, as the ideal of a bifocal, ground on the same piece of glass has not as yet been realized. As early as 1803 periscopic glasses (concave on one side and convex on the other) were recommended for their wider visual field by Wollaston. Physicians for a long time considered spectacles as much beneath their dignity and some of the most celebrated oculists even advised against their use. Each maker had his own scale and marked the glasses with the age for which they were supposed to be suitable.

At the beginning of the 17th century the astronomer, Johannes Kepler, demonstrated that the rays of light come from an object and are refracted by the cornea and lens of the eye to form an inverted image on the retina. He had a fairly clear view of near and far sightedness and how they were influenced by lenses. He also predicated the existence of the power of accommodation to explain the fact that the same eye can see clearly objects both near and far. Despite these rational views of Kepler, the medical profession refused to have much to do with glasses until the classical works of Helmholtz and Donders, about the middle of the last century, made the fitting of spectacles one of the most exact and scientific branches of practical medicine. The work of Donders established a mathematical basis for refraction by introducing the so-called emmetropic eye in which parallel rays are focused on the retina. This divides all eyes roughly into three classes: (1) those in which parallel rays are focused in front of the retina—the miopic eye; (2) those in which the rays are focused on the retina—the emmetropic, and (3) those in which the focus is behind the retina—the hyperopic. He also differentiated sharply between the static and the dynamic

refraction, the latter being the change in the former due to accommodation. The physiologic researches of Helmholtz as to the mechanism of vision and accommodation as well as his discovery of the ophthalmoscope, by which an estimate of the refraction can be made directly, all gave an immense impetus to the whole study and brought it into the prominence it now enjoys. Helmholtz a little later devised the ophthalmometer, by which the curvature of the cornea in the different meridians can be measured directly and hence the astigmatism determined. By means of these instruments which later workers have reduced to practical form for everyday use the physician can base his advice upon well known scientific laws as to what glass is needed to correct as far as possible the structural defect in any given eye and so increase the comfort and working capacity of numberless patients who come to him for aid.

RAY CONNOR.

THE USE AND ABUSE OF THE HYPODERMIC SYRINGE.

In a posthumous paper entitled "Therapeutics of Insanity" (*Journal American Medical Association*, April 16th, '04), Orpheus Everts makes use of what it seems to us, is a very unhappy phrase, the serpent-fanged hypodermic syringe, as if this inanimate object could be accused of a vindictive death-dealing spirit, while it all depends, as we would say in our modern phraseology; on "the man behind the gun." That the hypodermic syringe is powerful for evil in the hands of unthinking physicians, no one would gainsay. Yet its undoubted advantages more than outweigh its disadvantages, which may be practically nil when it is used by the care-

ful, conscientious clinician. What, then, are some of the indications for its use? A few weeks ago, as we were attending a patient suffering from acute dilatation of the heart, and saw the happy results following in a few minutes the hypodermatic use of the proper medication, we could not in the least question the undoubted merits of the instrument. As a few years ago when we were suffering from an excruciating pain in the head, we were relieved by a hypodermic injection of morphine at the hands of another physician for the first and only time in our experience, we felt thankful that it had been invented. When the stomach rejects all medication in a serious illness, many times the patient can be tided over a crisis by the hypodermic use of the correct medicinal agents. Whenever, then, quick and certain action of remedies susceptible to this method is to be had, we may safely use it. That on occasions of a slight neuralgia, or frequently where a habit is likely to be formed, or in certain neurotic cases, the use of this instrument is to be interdicted, goes without question. Let us never use the hypodermic syringe unless really indicated and we will never be responsible for the formation of drug habits, and will only call blessings on the head of the man who invented it for a real purpose as an indispensable emergency appliance.

W. J. WILSON, JR.

County Society News.

GENESEE COUNTY.

The regular quarterly meeting of the Genesee County Medical Society was held at Oak Grove Hospital, April 28, 1904.

P. B. Taylor, of Clio; F. D. Baker, of Flint; S. W. Given, of Flint; B. G. McGarry, of Fenton, and Wm. Aitchison, of Ortonville, were elected to membership.

D. W. C. Wade, of Holly, gave an entertaining talk on "High Frequency and Chemical Fluorescence," demonstrating the use of the high frequency currents by means of vacuum electrodes in connection with the static machine.

Preston M. Hickey, of Detroit, read an instructive paper on "Skiagraphy of the Chest," demonstrating the excellent work in this field by means of photographic negatives of the normal and pathologic chest. He was assisted in the demonstration by E. H. Hayward, of Detroit.

A unanimous vote of thanks was extended to Drs. Wade and Hickey for their instructive papers and excellent demonstrations.

Abram Goodfellow, of Clio, presented a paper on "Scarlet Fever."

Abstract.—

A brief resumé of the characteristic symptoms both of the severer forms and the milder types were given. The various complications or sequelae were also noted, and in this connection the liberal drinking of water and milk for some weeks after the patient is up and about, is strongly recommended. A considerable period of isolation is advised for those recovering from this disease, as desquamation may continue for three or even five weeks. It is not easy, however, especially in the rural districts, to maintain isolation a sufficient length of time inasmuch as it is difficult to convince the supervisors, who are the health officers, of the necessity for so doing. On the development of a case of scarlet fever the patient should be at once separated from the rest of the family and placed in the charge of some member of the household or some good woman of the neighborhood who can be made to understand the seriousness of the case, for scarlet fever, like diphtheria, is a dangerous disease. If this is sufficiently impressed upon the one in charge, the patient will receive better care.

A paper on Tonsillitis, written by J. M. Galbraith, of Montrose, was read by C. B. Macartney, of Flint.

Abstract.—

Among the causes of tonsillitis are exposure to wet or cold, poor hygienic surroundings, and poor drainage. It is more common in young persons, and the chronic form is most common under ten years of age. In the latter the accompanying adenoid tissue often shrinks at puberty, but before that time very serious damage is done which cannot be repaired. We have seen cases brought from chronic invalidism to health, by a quickly performed, and not dangerous operation. We not infrequently have repeated attacks of inflammation of the third tonsil without the others be-

ing involved, with fever, a throat cough, etc.

Cold, steady weather has the reputation of being healthy weather, but the winter just passed proves that such is not always the case. There was much sickness, tonsillitis being very common, and it was frequently followed by rheumatism. The latter disease is often secondary to inflammatory affections of the tonsils.

Mistakes in diagnosis are not infrequent. An apparently mild case of follicular tonsillitis will be followed by a case of laryngeal diphtheria in a person exposed. Cases have been treated for follicular tonsillitis where local or general paralysis supervened. In cases of doubt it is best to use antitoxine without waiting for a bacteriological examination.

In the beginning of an acute attack a saline laxative with acetanilid or aconite with bromides, and a little morphia to control the pain and fever, are indicated. I use some form of the salicylates more frequently than formerly. In neglected cases heart complications may arise.

A good local treatment consists of sprays of an antiseptic and alkaline lotion, alternating with peroxide of hydrogen and lime water. In severe cases I use a swab of carbolic acid in glycerine and tincture of iron. Later quinine, iron and strychnine phosphate may be used as a tonic.

All of the papers elicited full discussion and several interesting cases were reported.

An amendment to the Constitution and By-Laws relative to the election of the Board of Directors was adopted.

The report of a committee appointed by the chair to investigate the matter of a uniform fee bill and devise a plan whereby the impositions of the "dead beat" might be abated, was accepted and laid on the table until the next regular meeting that the members might have more opportunity to consider the several recommendations.

Refreshments were served and the meeting adjourned.

H. R. NILES, Sec'y.

WAYNE COUNTY.

The annual meeting of the Wayne County Medical Society was held in Detroit on May 19, 1904.

The following officers were elected:

President—Guy L. Kiefer.

Vice-President—W. S. Anderson.

Secretary-Treasurer—W. J. Stapleton, Jr.

Board of Directors—J. Flintermann, H. W. Longyear, F. W. Mann, W. F. Metcalf and F. B. Tibbals.

Section of Progressive Medicine—Chairman, E. S. Sherrill; Secretary, H. E. Safford.

Section of Surgery—Chairman, J. N. Bell; Secretary, B. R. Schenck.

The By-Laws of the Society were changed so that the Society will meet weekly, on Monday evenings, at 8.15.

The chairman of the Milk Commission, John E. Clark, read the following report:

To the Wayne County Medical Society:

Your committee to whom was referred the matters touching the establishment of a Milk Commission, have had various meetings, and the matter has been discussed in full. Sub-committees have been appointed which have given particular attention to the matters of certification, and adopted all rules and regulations to govern the proposed improvements to secure a better quality of milk to the citizens of Detroit. We present the result of our labors herewith, which have received the unanimous indorsement of our committee.

We ask adoption of reports herewith presented, and further instructions.

JOHN E. CLARK (Chairman.)

W. J. CREE,

CHAS. DOUGLAS,

GEORGE DUFFIELD,

ANDREW IMRIE,

C. G. JENNINGS,

H. W. LONGYEAR,

E. B. MCKAY,

F. W. MANN,

B. R. SHURLY.

To the Chairman of the Milk Commission:

Your committee, to whom were referred the matter of deciding what grades or qualities of milk should be eligible for certification by the Wayne County Medical Society, recommend as follows:

That the Society issue two certificates. (1) That the milk examined is guaranteed to contain less than 10,000 germs per C. C. and does not contain less than 3.75% butter fat. (2) That the milk examined contains less than 50,000 germs per C. C., and does not contain less than 3½% butter fat.

It is also the sense of the committee, that these certificates only be granted to milk vendors who shall also have fulfilled the requirements of sanitation and inspection recommended by the sub-committee designated for the purpose of stipulating what these shall be.

F. W. MANN,

Chairman, Committee on Standard.

To the Chairman of the Wayne County Milk Commission:

The committee on rules met and recommended that rules similar to those in force by the Medical

Society of New York be adopted by this Commission.

The subject can be divided into the care of the stable, of the cows, the milking, the care of the milk, water supply, employes and milk utensils.

1. The Stable—Keep dairy cattle in a room or building by themselves. It is preferable, when possible, to have no cellar below or storage loft above. The stables should be well ventilated, lighted, drained, should have tight floors and walls, and be plainly constructed. Store the manure under cover outside the cow stable, and remove it to a distance as often as practicable. Whitewash the stables once or twice a year; use land plaster in the manure gutter daily; clean and thoroughly air the stable before milking; in hot weather sprinkle the floor.

2. The Cows—Have the herd examined at least twice a year by a skilled veterinarian, authorized by the Commission. Promptly remove from the herd any animal suspected of being in bad health, and reject her milk. Never add an animal to the herd until certain it is free from disease, especially tuberculosis. Do not allow the cows to be excited by hard driving, abuse, loud talking, or any unnecessary disturbance. Feed liberally, and use only fresh, palatable foodstuffs. Provide water in abundance, easy of access and always pure. Do not allow strongly flavored food, like garlic, cabbage, turnips to be eaten except immediately after milking. Clean the entire body of the cow daily. If the hair in the region of the udder is not easily kept clean, it should be clipped. If the sides of the cow are plastered with dirt or manure, as is often the case, a certain amount is sure to fall into the pail of milk. This is where the trouble really begins, for this dirt and manure abound in bacteria, which causes decomposition in milk and thereby induce bowel disturbances.

3. The Milk.—The milker should be clean in all respects. He should wash and dry his hands and clean his nails just before milking. After the hands have been washed, a little vaseline may be used on them, thereby preventing scales from the teat or fingers getting into the milk. The milker should wear clean, dry garments, used only when milking, and kept in a clean place at other times. Brush the udder and surrounding parts just before milking, and wipe them with a clean damp cloth. Cover milk-pail before milking with two layers of gauze with absorbent cotton between, so that all the dust and other foreign material shall be kept from falling into the milk. Commence milking at the same hour every morning and evening, and milk quietly and thoroughly. Throw away (but not on the floor—better in the

gutter) the first few streams from each teat. The first milk is watery and of little value, and during the intervals between milking the bacteria from air get into the cow's teat and grow with great rapidity. These bacteria cause early souring of the milk. If in any milking a part of the milk is bloody or stringy or unnatural in appearance, the whole mass should be rejected. Milk with dry hands or oiled as above; never allow the hands to come in contact with the milk. If any accident occurs by which the pail full or partly full, of milk becomes dirty, do not try to remove this by straining, but reject all this milk, and rinse the pail.

4. Care of the Milk.—Remove the milk of every cow from the dairy at once to a clean dry room, where the air is pure and sweet. Do not allow the cans to remain in stables while they are being filled. Strain the milk through a metal gauze and a flannel cloth, or layer of cotton, as soon as it is drawn. Aerate and cool the milk as soon as strained. The rapid aeration and cooling of milk are matters of great importance. Combined aerators and coolers, suitable for use with well water or ice water, can be had at any dairy supply house at a small cost. By using one of these the cow odor, the animal heat, and much of the dirt can be removed from milk in a few minutes. The milk should be cooled at 45 f., if for shipment, or to 60 f., if for home use or delivery to a factory. Never mix fresh, warm milk with that which has been cooled. Do not allow the milk to freeze. When cans are hauled a distance, they should be full, and carried in a spring wagon. In hot weather cover the cans, when moved in a wagon, with a clean, wet blanket or canvas. If milk is stored, it should be held in tanks of fresh cold water, renewed daily, in a clean, cold, dry room. Clean all dairy utensils by first thoroughly rinsing them in warm water, then clean inside and out with a brush and hot water into which a cleansing material (sal. soda dissolved in water) is added; then rinse, and lastly sterilize by boiling water or steam. Use pure water only. After cleaning, keep the utensils inverted in pure air and sunlight if possible until wanted for use. Old cans in which parts of the tin are worn off, or where there are seams or cracks, are impossible to keep clean and should not be employed. No ice shall be put into the milk, and it shall not be allowed to freeze. No preservative or other substance shall be added to milk for any purpose, and no part of the milk shall be removed. No milk shall be sent from the dairy which is more than eighteen hours old. All tickets, checks, and labels on jars or bottles shall be new when de-

livered to consumers, and none shall be used a second time.

5. **Water Supply.**—The dairy shall be supplied with an abundance of pure water, the source of which shall not be within 250 feet of the stable or of any barnyard, privy, or other possible source of contamination. Water from wells or springs which are not protected against the entrance of flood and surface water, shall not be used for cooling milk or cleaning utensils. A sample of the water shall be furnished to the Commission at any time requested, and the water shall be examined at least once every year.

6. **Employees.**—Employees shall be clean in habits and appearance. No person having throat trouble or being otherwise out of health shall be admitted to the stable or dairy room. The existence of smallpox, typhoid fever, diphtheria, scarlet fever, measles, or other contagious diseases on or in the vicinity of the dairy farm shall be promptly reported to the Commission, and the sale of the milk shall be stopped till its resumption is authorized. No person connected with the dairy shall enter a house where it is known that there has been a contagious disease until it has been disinfected. No employe or other person shall be permitted in the dairy who has been in contact with any contagious disease.

7. **Milk Utensils.**—Vessels used for carrying milk shall not be used for anything else. All utensils shall be cleaned immediately after use. Cleaning cloths shall be washed and sterilized daily. Sponges shall not be used for cleaning.

8. **Care and Delivery of Milk.**—No ice shall be put into the milk, and it shall not be allowed to freeze. No preservative or other substance shall be added to milk for any purpose, and no part of milk shall be removed. No milk shall be sent from the dairy which is more than eighteen hours old. All tickets, checks and labels on jars or bottles shall be new when delivered to consumers, and none shall be used a second time.

If precautions like the above are strictly carried out, the milk will be clean, and remain fresh for a considerable length of time. The fresher the milk is, the better it will be for family use. The test of uncleanness consists in an increase in the proportion of lactic acid generated in the milk, and in a large increase in the number of bacteria per cubic centimeter.

A. W. IMRIE, Chairman.

H. W. LONGYEAR,

WALTER C. CREE, Sec'y.

It was moved, supported and carried that the report of the Milk Commission be adopted, and that this committee be instructed to appoint the

officers necessary to make its report effective, all without any expense to the Society.

GUY L. CONNOR, Sec'y.

Miscellaneous.

NEWS ITEMS.

The dedication of the new laboratories of pathology, physiology and pharmacology of the University of Pennsylvania, took place June 10th. The members of the American Medical Association attended the ceremonies in a body. Addresses were delivered by H. P. Bowditch, professor of physiology, Harvard University; R. H. Chittenden, director of the Sheffield Scientific School, Yale University; George Dock, professor of medicine, University of Michigan, and Horatio C. Wood, professor of therapeutics, materia medica and pharmacy, University of Pennsylvania.

The American Academy of Medicine held its annual meeting at Atlantic City, June 6 and 8, 1904. The following officers were elected: President, W. S. Hall, Chicago; Vice-Presidents, H. B. Ellis, Los Angeles; R. A. Reeve, Toronto; L. S. McMurtry, Louisville; M. H. Richardson, Boston; Secretary, Charles McIntyre, Easton; Treasurer, E. M. Green, Easton; Assistant Secretary, A. M. Craig, Columbia.

The American Pediatric Society held its annual meeting in Detroit, May 30 and 31, and June 1, 1904. The following officers were elected: President, C. G. Jennings, Detroit; Vice-Presidents, C. G. Kerley, New York City, and T. S. Wescott, Philadelphia; Secretary, S. S. Adams, Washington; Treasurer, L. A. La Fetra, New York City. The next meeting will be held at Lake George, June 19, 20 and 21, 1905.

The American Dermatological Association held its 28th annual meeting at Niagara Falls, June 2 and 3, 1904. The following officers were elected: President, W. T. Corlett, Cleveland; Vice-President, F. H. Montgomery, Chicago; Secretary and Treasurer, Charles J. White, Boston; member of the Council, J. A. Fordyce, New York. The next meeting will be held in New York, December 28, 29 and 30, 1905.

Dr. Griffin, of Ann Arbor, sailed from New York on June 15th for a tour of the European eye and ear hospitals. The doctor will return October 1st.

A new journal of medical physics began its career with the April, 1904, number. It is styled *Physikalisch-medizinische Monatshefte*. Its editors are H. Kraft, of Strassburg, and B. Wiesner, of Aschaffenburg. It is a monthly journal, dealing chiefly with such subjects as the Röntgen rays, phototherapy, hot air baths, hydrotherapy and massage.

BOOKS RECEIVED.

MEDICAL DIAGNOSIS.—By Dr. Wilhelm V. Leube, of Wurzburg. Translated by Julius L. Salinger, M. D. D. Appleton & Co., New York City. 1904.

DISEASES OF METABOLISM AND NUTRITION.—Part I.—Obesity, the Indications for Reduction Cures. By Prof. Dr. Carl von Noorden. Translated by Boardman Reed, M. D. E. B. Treat & Co., New York City. 1904.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE HOSPITAL SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1903.

THIRTY-NINTH ANNUAL MEETING OF THE MICHIGAN STATE MEDICAL SOCIETY, HELD AT GRAND RAPIDS, MAY 25, 26 AND 27, 1904.

MINUTES OF THE MEETINGS OF THE COUNCIL, HELD DURING THE ANNUAL MEETING OF THE STATE SOCIETY.

Grand Rapids, May 24th.

Meeting called to order, 7:30 p. m., by Chairman Connor.

Minutes of the last meeting (Jan. 26th) were read, corrected and approved.

Chairman Connor read his report to the House of Delegates.—(See JOURNAL, July, 1904, p. 304.)

By Dr. Bulson, after some complimentary remarks: Moved that the report be adopted as read.

Dr. Burr also complimented the report and supported the motion.

After some further remarks as to District Societies by Dr. Willson and Dr. Welsh, the motion was carried unanimously.

Secretary-Treasurer Biddle submitted his reports. The Treasurer's report was referred to the Committee on Finance. The Secretary's report was read, accepted and adopted on motion of Dr. Burr. The editor's report was read, and on motion of Dr. Burr, accepted.

Moved that these reports be accepted and placed on file. Carried.

Bids for printing THE JOURNAL were submitted by different firms and discussed by Dr. Burr and Dr. Dodge. The lowest bids came from Port Huron, but, as the expense would be increased if the printing were done in a different city than the one in which the editor lives, it was moved by Dr. Dodge and supported by Dr. Burr, to accept the new bid of John Bornman & Son, Detroit. Carried.

By Dr. Burr: That the Secretary be instructed to revise the mailing list of THE JOURNAL on the first of February of each year, striking therefrom the names of all whose dues are not paid for the current year. Supported by Dr. Bulson and carried unanimously.

Dr. Connor submitted a Certificate of Membership in conformity with instructions given at the January meeting of the Council.

By Dr. Welsh: To adopt the Certificate of Membership. Carried.

Moved that the House of Delegates be requested to ask County Societies so to amend their Constitution as to hold the Annual Meeting for election of officers and collections of dues between Aug. 1st and Dec. 15th of each year, to the end that all reports may be in the hands of the Secretary of the State Society by Jan. 1st. Carried.

By Dr. Bulson, after some complimentary remarks on the subject of organization: That each Councilor arrange for a social and scientific district society, which shall hold at least one meeting before the next annual meeting of the State Society. Supported by Dr. Willson. Carried.

The following names were recommended for honorary membership in the State Society:

By Dr. Small—Dr. L. W. Bliss, Saginaw.

By Dr. Bulson—Dr. A. B. Prescott, Ann Arbor.

By Dr. Dodge—Dr. Geo. K. Johnson, Grand Rapids.

By Dr. Willson—Dr. Hugh McColl, Lapeer.

By Dr. Connor—Dr. S. P. Duffield, Dearborn.

NON-RESIDENT HONORARY MEMBERS.

By Dr. Connor—Dr. W. H. Welch, Baltimore.

By Dr. Welsh—Dr. A. J. Ochsner, Chicago.

Adjourned to meet May 25th, 4 p. m.

May 25th, 4 p. m.

Meeting called to order by Chairman Connor. Minutes of last meeting read and approved.

A general discussion of the proposed organization of District Societies was participated in by the Council. Dr. Burr gave some ideas as to the manner of organizing same and Dr. Bulson brought out the fact that the House of Delegates only has the constitutional power to organize District Societies.

Dr. Landon brought up the question of Iosco County joining a neighboring county medical society. Referred back to Dr. Landon.

Dr. McMullen spoke of difficulty in Mason County. Reported Oceana County ready to organize. Oceana County is now in fifth district and the matter was referred to Councilor of fifth district.

Dr. Willson brought up difficulty in St. Clair County and on request of Chairman explained same. Discussed by Drs. Burr, Connor Willson and Dodge.

By Dr. Burr: That the action of the Councilor of the seventh district in recommending Dr. Burtless and Dr. Patrick for membership in St. Clair County Medical Society be approved, and that this Council recommend to the St. Clair County Medical Society that in a spirit of friendliness it reconsider its previous action in refusing admission to the candidates.

Adjourned to meet May 26th, 4 p. m.

May 26th, 4 p. m.

Meeting called to order by Chairman Connor.

By Dr. Landon: That all papers read before the Michigan State Medical Society and the County Medical Societies be delivered into the hands of Dr. Burr, as Chairman of the Committee on Publication, for revision and approval, before they are given publication in THE JOURNAL. Carried.

Dr. Dodge, Chairman of the Committee on Finance, reported that the accounts of the Secretary and Treasurer have been duly audited and found to be correct. Accepted.

By Dr. Bulson: That the Counties of Oceana and Muskegon be placed in the eleventh (Dr. Dodge, Councilor) District. Carried.

By Dr. Dodge: That the Secretary of the Council give official notice to the Councilors of the districts of the changes in their respective districts. Carried.

By Dr. Bulson: That Dr. Leartus Connor be elected Chairman and Dr. W. H. Haughey Secretary of the Council for the ensuing year. Motion put to vote and carried.

The Chairman announced the reappointments of the committees of last year in the same order of precedence.—See JOURNAL, July, 1903, page 316.)

Adjourned to meet in January, 1905, place and time to be fixed by Chairman.

W. H. HAUGHEY,
Secretary of Council.

MINUTES OF THE PROCEEDINGS OF THE HOUSE OF DELEGATES.

May 25, 9 a. m.

1. Call to order by President, Wm. F. Breakey, Ann Arbor.

2. Roll call showed majority of the members of the House of Delegates present for the transaction of business.

3. Minutes of last annual meeting read and approved.

4. Report of the Council, Leartus Connor, Detroit, Chairman.

Referred to Business Committee.

(Published in JOURNAL for July, 1904, p. 304.)

5. Report of Committee on Legislation and Public Policy, W. H. Sawyer, Hillsdale, Chairman.

Accepted.

(Published in JOURNAL for July, 1904, p. 308.)

6. Report of the Michigan Member of the National Legislative Council, A. M. A., Emil Amberg, Detroit.

Accepted.

(Published in JOURNAL for July, 1904, p. 309.)

7. Miscellaneous Business:

On motion of Willis S. Anderson, Detroit, duly supported, the Chair appointed the following members as the Business Committee:

Willis S. Anderson, Detroit.

A. W. Hornbogen, Marquette.

C. B. Stockwell, Port Huron.

On motion of J. H. Reed, of Battle Creek, supported by F. B. Tibbals, of Detroit, it was moved that nominations for members of the Committee on Nominations be made from the floor.—Carried.

Thereupon the following nominations were made:

O. L. Dales, Grand Rapids.

A. W. Hornbogen, Marquette.

C. T. Southworth, Monroe.

G. W. Nihart, Petoskey.

F. B. Tibbals, Detroit.

Moved and supported that the Secretary cast the vote of the Society for the five members nominated.—Carried. (Vote cast by Secretary.)

Resolution by H. O. Walker, Detroit, "Clearing House for Medical Supplies of Unknown Composition."

Whereas, an exact knowledge of the composition and properties of substances used in the management of disease is essential to a physician's best success;

Whereas, commercial push, by advertisements and drummers, persuades many physicians (often the very elect) to use and commend drugs, mineral waters, artificial foods, etc., etc., of unknown composition and effects;

Whereas, as it is impossible for the individual physician to verify the statements of sales agents, to separate fact from fancy, he often uses substances quite unlike those indicated, to the discredit of himself and his art;

Whereas, the American Medical Association was organized to promote the exact knowledge and intelligent practice of its members;

Resolved, that the Board of Trustees, A. M. A., is hereby instructed to provide for the analysis of medicinal substances of unknown composition and undetermined effects and to promptly publish the results in the Association Journal.

Resolved, that the Board of Trustees, A. M. A., be instructed to appoint a "Journal Clearing House Commission," three in number, to serve without salary, with authority to employ one or more competent experts, and to equip a suitable laboratory, at a yearly expense not to exceed five thousand dollars."

Referred to Business Committee.

Adjourned.

May 26th, 9 a. m.

1. Meeting called to order by President, Wm. F. Breakey.

2. Minutes of yesterday's meeting read and approved.

3. Unfinished business.

Report of Business Committee, read by Dr. Willis S. Anderson, accepted and adopted.

"We recommend the change in Chapter iv, Section 6, of the By-Laws, so as to allow the redistricting of the State, by striking out the words "Corresponding to twelve Congressional Districts according to present apportionment, except that no county shall be sub-divided."

We recommend that the Component County Societies amend their By-Laws, if necessary, so as to make uniform the requirements for admission to membership. We suggest that a majority vote be sufficient to elect new members into the Component County Societies, as now prevails in nine-tenths of the Societies; and that, as the fiscal year ends Dec. 31, it would facilitate business if

all branches held their annual meetings between Aug. 1 and Dec. 15, in order that the reports and dues may be in the hands of the Secretary of the State Society by Jan. 1, as required by the By-Laws.

We recommend in accordance with the resolution passed at the evening session, May 25th, that the House of Delegates instruct the President to appoint a committee of five to work in conjunction with a similar committee from the Michigan State Bar Association to use their influence to improve legislation in respect to expert testimony.

We endorse the recommendation of the Council and the resolution offered by Dr. H. O. Walker that our delegates to the A. M. A. be instructed to use their influence towards establishing a "Clearing House" in connection with THE JOURNAL, in order that drugs and preparations may be examined by a competent analyst.

We recommend that the following be added to the roll of honor list:

Albert B. Prescott, Ann Arbor.

George K. Johnson, Grand Rapids.

S. P. Duffield, Dearborn.

L. M. Bliss, Saginaw.

Hugh McColl, Lapeer.

We recommend that the following be elected as non-resident members:

William H. Welch, Baltimore, Md.

A. J. Ochsner, Chicago, Ill.

We endorse the suggestion made by the President that the State Legislature be urged to establish a State Sanitarium for Consumptives."

4. Report of the committee to petition the Legislature for an appropriation for the establishment of a properly equipped sanitarium for the treatment of the early stages of tuberculosis, B. D. Harison, Sault Ste. Marie, Chairman.

Accepted, committee continued and instructed upon its work.

(Published in THE JOURNAL for July, 1904, page 310.)

5. Report of Committee on Vital Statistics, H. B. Baker, Lansing, Chairman, accepted and committee continued.

(Published in THE JOURNAL for July, 1904, page 311.)

6. Miscellaneous Business.

By C. B. Stockwell, Port Huron. An amendment to Article V of the Constitution relative to the House of Delegates, which now reads: "The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the Component County Societies, and (2) *ex-officio*, the officers of the Society as defined in this Constitution," by adding after the word "constitution," "without

power to vote." (See Constitution, Art. XIII. Amendments.)

Dr. W. S. Anderson, Detroit: I have been requested to present the following for your consideration, from the Secretary of the Mississippi Valley Medical Association:

"Louisville, Ky. October 17, '03.

To the Secretary of Mich. State Medical Society.

Dear Doctor.—The following important action was taken by the Mississippi Valley Medical Association at its recent meeting in Memphis, and acting under instructions I send you the resolutions with the request that you bring them before your Association for endorsement, our Association believing that great good can be accomplished from this.

Thanking you in advance for this favor, I am
Very truly yours,

HENRY ENOS TULEY, Sec'y.

At the 29th Annual Session of the Mississippi Valley Medical Association held at Memphis, October 7-9, the following resolutions were adopted:

In view of the fact that more than 400 deaths from tetanus occurred following the 4th of July celebration of 1903, as shown by the statistical report elaborated by Dr. S. C. Stanton, of Chicago, and published in the Journal of the American Medical Association of August 29, 1903, the great majority of which might have been prevented had proper precautions been taken: therefore

Be it Resolved, That the conclusions which follow, as offered by Dr. Stanton in a paper presented before the Association, at the above meeting, be endorsed as the sense of the Association, and further

Be it Resolved, That the Secretary be instructed to forward a copy of these resolutions and conclusions to the Medical Press, Associated Press, and the Secretaries of the several State Medical Societies, with the request that they publish same and take suitable action thereon.

1. Enforcement of existing laws regarding the sale of Toy Pistols and other dangerous toys.

2. Enactment of laws by the nation, states and municipalities prohibiting the manufacture and sale of Toy Pistols, Blank Cartridges, Dynamite Canes and Caps, Cannon Crackers, etc.

3. Open treatment of all wounds, however insignificant, in which from the nature or environment there is any risk of Tetanus.

4. Immediate use of Tetanus Antitoxin in all cases of Fourth-of-July wounds, or wounds received in barnyards, gardens, or other places where Tetanus infection is likely to occur.

5. As a forlorn hope, the injection of Tetanus Antitoxin after Tetanus symptoms have appeared."

Referred to the Committee on Legislation and Public Policy, with power.

Dr. W. S. Anderson, Detroit: I have been requested to present the following letter from Dr. Frank Allport, of Chicago:

"CHICAGO, ILL., April 28, 1904.

Sec'y Michigan State Medical Society:

Dear Doctor.—I am glad that the resolution concerning the eyes and ears of school children has been adopted at the last meeting, by your State Society. Of course, however, you will readily see that unless something more is done about the matter than the mere passing of the resolution nothing will come of it. May I suggest, therefore, that your State Society will do what is being done by other State Societies, namely: Have the President appoint a committee of three energetic influential doctors (preferably Ophthalmologists) who will take the matter before the State Board of Health and the State Board of Education, and make them see that action is taken. I think, if this is done, you will find that something will come of the matter. Will you be kind enough to inform me if anything further is done along these lines, as I am endeavoring to keep track of what is done by the different States?

Truly yours,

F. ALLPORT.

On motion of W. S. Anderson, Detroit, duly supported, the President was instructed to appoint a committee of three as suggested.

Dr. F. B. Tibbals, Detroit: I wish to introduce a matter of considerable importance to the profession of this State. At the present time the law regarding actions for malpractice in this State allows an action to grow up against a physician at any time within three years. Several other States, Tennessee, Kentucky, Ohio, Delaware and Arizona, have a statutory limitation of one year. I, therefore, move you, Mr. President, that this matter be referred to the Committee on Legislation and Public Policy with instructions to submit to the next legislature such amendments to the present law as will limit the statutory time for malpractice actions to one year.—Carried.

By motion of Leartus Connor, Detroit, the name of Dr. F. B. Tibbals was added to the Committee on Legislation and Public Policy.

Which motion was supported and carried.

Adjournment.

May 27th, 9 a. m.

1. Reading of minutes of previous meeting.—Accepted.

2. Unfinished business:

By W. S. Anderson, Detroit: Motion to adopt the amendment to Chapter IV, Section 6, of the

By-Laws, as presented to and reported favorably upon by the Business Committee at yesterday's meeting, by striking out the words "corresponding to the twelve congressional districts according to the present apportionment, except that no county shall be subdivided."—Carried.

3. Report of the Committee on Nominations accepted and adopted.

"Your Committee on Nominations beg to make the following recommendations:

First Vice-President, Don M. Campbell, Detroit.

Second Vice-President, W. M. Edwards, Kalamazoo.

Third Vice-President, Richard R. Smith, Grand Rapids.

Fourth Vice-President, John W. Moore, Atlantic Mine.

Delegates to the A. M. A. for two years:

W. K. West, Calumet.

C. B. Stockwell, Port Huron.

Place of meeting for 1905, Petoskey. Time of meeting, last week in June or first week in July.

O. L. DALES, Chairman."

4. Miscellaneous business.

Dr. W. S. Anderson, Detroit: I have been requested to present the following in the interest especially of those who practice in the country:

"Whereas, Good roads help to develop the country and the people, second only to the influence of the school and the church; therefore be it

Resolved, That we favor federal and State aid for building good and permanent roads; the changing of the constitution of the State so as to permit of receiving federal aid when it is granted; and the creating of a State department of highway, which will be constitutional, and will aid to disseminate knowledge as how to build good roads."

Motion carried and referred to the Committee on Legislation and Public Policy.

Adjourned. A. P. BIDDLE, Sec'y.

MINUTES OF THE PROCEEDINGS OF THE SOCIETY IN GENERAL MEETING.

May 25th, 10:30 a. m.

1. Called to order by the President, Wm. F. Breakey, Ann Arbor.

2. Prayer by Rev. J. Herman Randall.

3. Address of welcome by Hon. Edwin F. Sweet, Mayor.

4. Report of Committee on Arrangements, D. E. Welsh, Chairman.

5. Report from the House of Delegates, A. P. Biddle, Secretary.—(See JOURNAL, July, 1904, page 299, minutes of the proceedings..

6. Address of the President, Wm. F. Breakey, Ann Arbor. "Obligations of the State to Conserve Life and Health."—(Published in JOURNAL for June, 1904, page 229.)

On motion of H. O. Walker, Detroit, duly supported, the President's address was referred to the Business Committee of the House of Delegates.

Vote of thanks from the Society extended to the President for the admirable address.

By H. B. Baker, Lansing: That the Business Committee be requested to consider the practicability of sending a copy of the President's address to each newspaper in the State.—Carried.

7. Miscellaneous business.

(a) Nominations for President.

On motion of A. E. Bulson, Jackson, duly seconded, and of J. B. Griswold, Grand Rapids, duly seconded, the following nominations were respectively made:

B. D. Harison, Sault Ste. Marie.

D. Emmett Welsh, Grand Rapids.

It having developed as the sense of the meeting that a member of the Council should not be a candidate for the office of President, the name of Dr. D. Emmett Welsh was withdrawn.

EVENING SESSION, MAY 25TH.

1. Meeting called to order by Dr. D. Emmett Welsh, Grand Rapids, Chairman Committee on Arrangements.

2. The Relation of the National Auxiliary, Congressional and Legislative Committee of the A. M. A. to the Public and to the Medical Profession, Emil Amberg, Detroit, Michigan, member National Legislative Council of the A. M. A.—(Published in JOURNAL, July, 1904, p. 315.)

3. Address by Judge Willis B. Perkins, Grand Rapids, "Medical Legislation and Expert Testimony."—(To be published in THE JOURNAL.)

By J. B. Griswold, Grand Rapids. That the thanks of the Society be extended to Judge Perkins for his paper.—Carried.

By J. B. Griswold, Grand Rapids: That a committee of five be appointed by the President to act in conjunction with the State Bar Association relative to the subject matter of the paper presented by Judge Perkins.—Carried.

The President appointed the following committee:

J. B. Griswold, Grand Rapids.

V. C. Vaughan, Ann Arbor.

David Inglis, Detroit.

C. B. Burr, Flint.

W. H. Sawyer, Hillsdale.

Adjourned.

May 26th, 10:30 a. m.

1. Report of committee to secure data regarding the prevalence of venereal diseases in Michigan.

A. E. CARRIER, Detroit,
Chairman.

Report accepted and committee continued.

(Published in JOURNAL for July, 1904, page 317.)

2. Oration on Surgery, H. E. Randall, Lapeer. "Abdominal Pain."—(Published in THE JOURNAL for June, 1904, page 241.)

3. Oration on General Medicine, David Inglis, Detroit. "A Message from the Clinician to the Laboratory Worker."—(Published in JOURNAL, July, 1904, page 277.)

4. Miscellaneous Business.

By J. C. Willson, Flint: That the President appoint a committee of three on Necrology to draft appropriate resolutions to the memory of the late Dr. Donald Maclean, ex-President of the Society, and of other members who have died during the year, with instructions to report at the next meeting. Carried.

The President appointed as the members of this committee F. B. Tibbals, Detroit; J. C. Willson, Flint, and A. N. Collins, Detroit.

Adjourned.

May 27th, 10:30 a. m.

1. Unfinished Business.

Report from Committee on Necrology: Dr. Tibbals stated that the short space of time at the disposal of the committee precluded any complete report upon the necrology of this Society for the past year. Therefore the committee begged indulgence, that it might submit its report in the form of a communication to be published later in THE JOURNAL, when it may be complete. The committee presented the following resolution upon the death of Dr. Donald Maclean, an ex-President of this Society and an ex-President of the American Medical Association:

DR. DONALD MACLEAN.
1839-1903.

"Donald Maclean, an ex-President of this Society, and of the American Medical Association, died during the month of July, 1903. As a surgeon, teacher and leader of medical thought he left an impress upon medicine in Michigan which is as indelible as though carved on granite.

We miss his stalwart form, genial face and kindly heart and shall long remember him as he was when in his prime. His magnetic personality, combined with great natural ability, made him loved and honored by many and respected by all.

Therefore, *be it resolved*, That the Michigan State Medical Society spread upon its minutes this brief eulogy as a lasting tribute to his memory."

By J. B. Griswold, Grand Rapids: That the report of the committee be adopted and that the committee be granted the time desired. Carried.

2. Report of House of Delegates. A. P. Biddle, Detroit, Secretary.

(See report of Committee on Nominations to the House of Delegates in the minutes of the same.)

3. Oration on Obstetrics and Gynecology, A. N. Collins, Detroit. "Have We Yet Learned How Potent for Cure Are the Natural Processes?"—

(Published in THE JOURNAL for July, 1904, p. 271.)

4. Miscellaneous Business:

The Secretary: I have this communication from the Nurses' Association:

"Detroit, Mich., May 24, 1904.

To the Secretary, Michigan State Medical Society:

The following motion was adopted at the Michigan State Nurses' Association, held in Detroit, May 10, 1904:

That the Michigan State Medical Society and the County Medical Societies be requested to endorse the efforts of the graduate nurses to secure state registration.

S. E. SLY,
Corresponding Secretary,
Michigan State Nurses' Association."

Moved by J. H. Carstens, of Detroit, that the Society endorse the efforts of the nurses to secure the passage of such a law.

Amended by Bion Whelan, of Hillsdale, that the Committee on Legislation and Public Policy be requested to help in the procuring of such legislation. Carried.

Report of Committee on Nominations, O. L. Dales, Grand Rapids, Chairman, showed that Dr. B. D. Harison, Sault Ste. Marie, was duly elected President of the State Society for the ensuing year.

Dr. Harison thanked the Society for the honor conferred upon him and pledged his best efforts to the advancement of its interests.

On motion of Leartus Connor, Detroit, a vote of thanks was extended to the Kent County Medical Society for its hospitality and for the care of the visiting members.

Adjourned.

REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES.

May 25, 1904.

LEARTUS CONNOR, DETROIT, CHAIRMAN.

In accord with our By-Laws the Council begs leave to report upon the Society's Branch Societies, Finance, Publication and Judicial interests, during the interval from last meeting to May 21st, 1904.

The Council elected Dr. A. P. Biddle as Secretary-Editor, with power to select his assistants, and here records its appreciation of their efficiency and faithfulness, in looking after the immense detail of the office. This work is really a specialty, demanding special training, and in view of the meagre compensation possible the Society should be congratulated on the service secured, and heartily support the efforts of these gentlemen on their behalf.

BRANCH SOCIETIES.

Since our last meeting, two new branches have been formed, viz.: Benzie granted a charter August 14th, 1903, and Newaygo, granted a charter March 7th, 1904, making a total of sixty branches in our State Society.

RE-ARRANGING OF COUNCILOR DISTRICTS.

That twelve men in active practice should once or more yearly visit sixty branch societies is a task of large proportions. At its inception, for convenience, the political Congressional Districts, were selected, but experience soon indicated, that a change would reduce the Councilor's expenditure of money, time and energy. A committee of the Council reported in favor of the following arrangement, and thus the matter comes before the House of Delegates:

1.	4.
Lenawee	Allegan
Macomb	Berrien
Monroe	Kalamazoo
Oakland	Van Buren.
Washtenaw	
Wayne.	5.
2.	Berry
Branch	Ionia
Hillsdale	Kent
Ingham ..	Ottawa.
Jackson	
3.	6.
Calhoun	Clinton
Cass	Genesee
Eaton	Livingston
St. Joseph.	Shiawassee.

7.
Huron
Lapeer
Sanilac
St. Clair.

8.
Clare
Gladwin
Gratiot
Isabella
Midland
Saginaw
Tuscola.

9.
Antrim
Benzie
Charlevoix
Grand Traverse
Kalkaska
Leelanau
Manistee
Mason
Missaukee
Wexford.

10.
Alcona
Alpena
Arenac

- | | |
|-------------------|---------------------|
| 1. Leartus Connor | 7. M. Willson |
| 2. A. E. Bulson | 8. S. I. Small |
| 3. W. H. Haughey | 9. B. H. McMullen |
| 4. G. D. Carnes | 10. H. B. Landon |
| 5. D. E. Welsh | 11. W. T. Dodge |
| 6. C. B. Burr | 12. Theo. A. Felch. |

Bay
Cheboygan
Emmet
Iosco
Presque Isle.
Otsego
Montgomery
Crawford
Oscoda
Roscommon
Ogemaw

11.
Lake
Mecosta
Montcalm
*Muskegon
Newaygo
*Oceana
Osceola

12.
Chippewa
Delta
Dickinson-Iron
Gogebic
Houghton
Marquette
Menominee
Schoolcraft

Very early in the work it was found that some Councilors could deal better with a portion of the field of a neighbor, and vice versa, so there was an exchange of fields, and all profited thereby.

Because of easy communication, those Branches adjacent to Wayne have been added to the First District—so obviating the tedious roundabout lines of travel necessitated by the present arrangement.

The results of the year's work clearly shows the tact, energy, and far sightedness of Branch officers, and should be remembered when the time comes for choosing their successors.

Every Branch has been visited at least once by its own Councilor, and some by one or more visiting Councilors—the net result being a healthful increase of enthusiastic work.

*Added at request of council at meeting of same May 26th.

Apart from their semi-annual meetings the Councilors have embraced every opportunity for consultation over the complicated problems presenting for solution, when possible they have included the Branch officers. Last fall all the members of the Fifth District united in a meeting at Grand Rapids, a suggestion of the farther evolution of organization, when every District will have one or more meetings annually. It is hoped that in this way some of the old District Societies may gain a closer touch with the State organization.

In twenty-six counties there has been a gain and in twenty-five a loss of paid-up members—eight remain unchanged. There is a net gain of twenty-five members. Some of the losses are from death, some have removed from the State, some have retired from active practice. There is every reason to believe that ere the year closes practically all the Branches will exhibit a gain—certainly they will if delegates on their return home undertake to wipe out the score.

COUNTY SOCIETIES.

It is suggested that delegates at an early date examine the constitution and by-laws and unwritten customs of their Branches, if perchance they may discover relics of a by-gone age, quite antagonistic to the necessities of our organization, but thoughtlessly continued. Thus the place of meeting should be neutral—one to which every member of the Branch finds pleasure in going. For obvious reasons this may not always be the office of any member, but the town hall or other room used for public purposes.

Then there was a time when the votes of all members were required for election of a new one—but it seems more in accord with the organization of all doctors in the State that a majority suffice.

Formerly members of County Societies were forbidden under penalty of ostracism from consulting with rejected or ineligible physicians; now they should have perfect liberty, if only the principles of medical ethics be observed.

If things like these be found in the organic law or customs of any Branch, their vicious tendencies should be quietly brought to the attention of other members, and as soon as practicable eliminated.

As the Council year begins with Jan. 1 and ends with Dec. 31, it would facilitate business if all Branches held their annual meetings between Aug. 1 and Dec. 15th. It is suggested that the House of Delegates so amend the by-laws as to conform to this system.

FINANCE.

The problem of finance is fundamental; unwise outlay, or atrophied receipts portend disaster. The Council has sought to secure the largest income with least expenditure compatible with proper pushing of the work entrusted to its care. The following statement covers all transactions from 1903 meeting to May 21st, 1904:

Cash on hand at 1903 meeting.....	\$1065.02
Dues from members	3509.00
Refund from Michigan Passenger Agent	6.00
Advertisements	1996.89
Subscriptions	5.72
Blanks for County Societies	15.19
Rebate	1.50
Total receipts	<u>\$6599.32</u>

Disbursements—

Printing and mailing of JOURNAL, 11 mos.....	\$3541.82
State Society expenses	381.34
Commission on advertisements	394.76
Treasurer's salary (June, 1903).....	12.50
Secretary's salary (11 mos.)	275.00
Editor's salary (11 mos.)	275.00
Council expenses as per by-law	218.00
Reporting meeting, 1903	200.00
Total expenditures	<u>\$5298.42</u>

Assets, May 21st, 1904—

Cash on hand	\$1300.90
Due on advertisements	32.00
Total	<u>\$1332.90</u>

Besides THE JOURNAL has signed advertising contracts, with a net value of one thousand dollars, but this has still to be earned. Thus, there is but a small margin to the Society's credit—a fact that forbids new expenditures till it be largely increased.

It appears that the actual cost of THE JOURNAL exceeds the entire membership dues—the deficit being met by advertising income. Since June, 1903, the Treasurer received no salary, the burden of his work being done by the Editor-Secretary, without increasing his own. The latter receives but six hundred dollars yearly for the immense labor and responsibility connected with his duties. The twelve Councilors are allowed three hundred dollars yearly for traveling expenses—but it appears that but little more than two hundred is actually called for. Each farther contributes his official postage, stationery and other expenses incident to his work. The salary of the Secretary-Editor's office should be larger

but the Society's income does not admit of an increase.

In accord with By-Laws, Chapter VIII, Sec. 7, the House of Delegates will pass upon the itemized statement of traveling expenses by the several Councilors, as presented by them to the Secretary.

PUBLICATION.

THE JOURNAL has been issued promptly, except when prevented by accident beyond the management's control.

Regular edition	2200
Mailed to paid-up members	1680
Mailed to unpaid members	342
Mailed to advertisers	63
Mailed to libraries	10
Mailed to exchanges	42
Mailed to medical publishers	7
Given Editor's Medical Progress.....	30
Complimentary	5

Since the Society has no place for storage, or capital for carrying extra copies, no edition is much in excess of actual needs, hence back numbers cannot be furnished. Subscriptions begin when the dues are received by the Editor and should cease with the expiration of the period for which the dues were prepaid. But knowing the difficulties on the part of a few in meeting such payment, the Council has continued sending THE JOURNAL long after the expiration of prepayment. Simple justice demands that such practice be limited, because every copy costs a definite sum and it is unfair that the Society bestow this upon the indifferent or unappreciative. Hence the Council has directed that mailing of THE JOURNAL must cease with the expired subscription, only to be renewed when prepayment is resumed.

County officials could do much to secure the prompt prepayment of dues, and it is the privilege of delegates to remind them of an omission, and aid them in the enrollment of new members.

The Council fully realizes that THE JOURNAL should render the best possible service to the Society, and steadily directs every resource to this object, but limitations of finance and available trained workers have prevented the reaching of its ideal.

Among the new features may be mentioned the pages of medical progress, so prepared by experts as to exceed a mere abstract of original work published elsewhere.

The department of new publications has increased in size and improved in quality. Could THE JOURNAL afford the expense it would be wise

to purchase the books worthy of attention and ignore others. At present it accepts such books as publishers send it, and gives its readers such idea of their nature and value as will enable them to purchase with greater discrimination and know of the aggregation of knowledge within their reach. This department was organized with difficulty, owing to the reluctance of publishers to send copies of their books to new journals and of competent persons available to prepare suitable notices. At present leading publishers send their works, and skilled reviewers analyze them for THE JOURNAL.

All recognize the improved internal arrangement of THE JOURNAL, both in appearance and convenience.

As already stated the net value of advertisements is larger than last year, in spite of the fact that valuable contracts were refused because of their doubtful character. The undetermined advertising value of a new journal like ours, the superabundant number of medical journals, and our inability to afford expert aid in securing advertisements, combine to obstruct the rapid growth of this department. While thus hampered, it is hoped that every delegate, officer, and member of branches, will remember to aid the management as opportunity presents. Much can be done by noticing whether each traveling salesman's house is represented in THE JOURNAL's advertising pages, frankly telling the representative that THE JOURNAL owners would be glad to receive the patronage of his house. The Michigan profession is a large buyer of medical books, surgical instruments, chemicals, drugs and dressings, etc., etc., and if it patronized those advertising in its journal and made this evident on fitting occasions, THE JOURNAL would soon have all the advertising it could carry.

Closely related to this is our exact knowledge of the goods offered the medical profession and laity. Notoriously both parties are being humbugged by the sharp practices of commercial houses. To escape this a "clearing house" is a necessity. Such a house is beyond the reach of the Michigan State Medical Society, but within that of the American Medical Association. It is suggested that the Michigan House of Delegates instruct its delegates to the A. M. A. to urge that body to establish such a "clearing house" in connection with its Journal. Beginning in a modest way, it would secure an analyst, of capability, honesty and fearlessness beyond question, to examine one after the other drugs and preparations of unknown composition, yet widely advertised and sold. Probably lawsuits might fol-

low, but if the work were legally done there need be no fear of the outcome. Such clearing house would strengthen the organization by practically exhibiting its willingness to do that which aided every doctor in knowing the nature of his daily tools, and so reducing his chances of failure. Such a clearing house would make it easier for both national and state journals to admit to their advertising pages only those things helpful to the doctor. There is no reason why the organ of the medical profession of the United States should not aggressively give battle to the enemies of said profession. Medicinal agents of unknown composition are not the least of these.

The value of *THE JOURNAL* rises or falls with the quality of published material. It is a matter of history that the present excellence of the *National Journal* took its origin in such changes as gradually brought to its pages the best material in the world. The question before all friends of *THE JOURNAL* is, how can its pages be filled with the best possible articles? Both Council, House of Delegates, officers, general and local, and individual members have a vital interest in this question. The facts are that this material comes from either the General Society or its Branches. The question then is how can the best material possible be secured from these? The collection of material for any given year falls upon the officers of societies or sections, so that if these exhaust the possibilities of their members nothing more can be done. It is a matter of common observation, that one person is better adapted for getting the best work done, because of temperament, training or executive ability, and such should be selected as officials, especially secretary. It is for each delegate to exert his influence in his own society for this end. The good material thus made certain will render *THE JOURNAL* more attractive to every member. We must eliminate, so far as possible, the idea of electing any official as an honor to him, but rather to elect him because he can *serve* the organization better during a particular period.

THE JOURNAL management cannot transform lead into gold, therefore let us take heed to give it only the best. Nor can it publish all the work of the State Society and its sixty Branches, but it can publish in abstract or extenso the most important. Hence it is hoped that delegates will encourage secretaries of their Branches to abstract all papers that cannot be published at length. Many forget that an idea or practice clothed in short, fresh, crisp language gains thousands of readers over the long article. Such is quoted and remembered while the diluted one

either is unnoticed or speedily forgotten. Those who have scanned the columns of *THE JOURNAL*'s exchanges will have had this truth burned into their memories.

Writers of papers can greatly aid editors in diminishing the cost of *THE JOURNAL* by extra care in preparing their copy, and remember that there is additional expense for every word or sentence cut out and new one inserted.

Evidences of the increased hold *THE JOURNAL* has acquired are numerous. Voluntarily advertisers affirm that their investment has brought them large returns, and they want contracts renewed. This is true not only of drug and food manufactories, but of sanitariums, etc., etc.

Subscribers immediately give notice of missing copies, as they do not want a break in their files. Contributors express gratification at the evidences that their articles have been copied into other journals and attracted attention of those interested in the topic discussed.

Changes in residence of Society membership are numerous, and difficult to keep track of, unless the editor is apprized of the changed address. Complaint is often received from a member who not only overlooked notifying the editor of his removal, but also the post office. The numbers thus lost are supplied, if possible, but much friction would be obviated if the editor were promptly notified of a member's change of residence.

A special department in the advertising pages has been established to gratify advertisers, who desire reading notices, and the readers of *THE JOURNAL* who object to such material in the body of *THE JOURNAL*. Naturally advertisers seek the largest returns for their investment, and have secured from many journals space even in the editorial columns. The arrangement in *THE JOURNAL* seems to satisfy all parties and though increasing the expense, it profits in facilitating the renewal of old contracts and the securing of new ones.

ROLL OF HONOR.

Art. IV, Sec. 5, Constitution, provides for a roll of resident honorary members who have won distinction, but are restricted from active service by disabilities of age or other infirmity. In accord therewith the Council nominates for election by you the following:

Albert B. Prescott, Ann Arbor.
George K. Johnson, Grand Rapids.
S. P. Duffield, Dearborn.
L. M. Bliss, Saginaw.
Hugh McColl, Lapeer.

Three of these, Drs. Johnson, Bliss and McColl, have served as Presidents of this Society; two,

Drs. Prescott and Duffield, have added national distinction as chemists and teachers of chemistry to their reputations as physicians. All during more than a generation have led the Michigan profession in its march towards the promised land.

Under authority of the same article of our Constitution, Sec. 6, the Council nominates for honorary non-resident members:

William H. Welch, of Baltimore, Md., honored everywhere for his pathological work, for his skill in training pathological investigators and enthusing his students with highest professional ideals.

A. J. Ochsner, of Chicago, known to all for his high attainments as a practitioner and teacher of abdominal surgery.

While recognizing its shortcoming, the Council has done the best with the resources at its command. It has entered at length upon some features of its conduct in the hope of securing even larger co-operation and aid from officials and members of the Society through the facts diffused by the individual delegates as well as their official action.

SUMMARY.

Finance—While there has been a slight gain in our net income during the past year—we need to restrict expenditures to present work and neglect no opportunity to augment receipts.

County Societies have been increased to sixty, and exhibit little friction in adjusting themselves to new conditions. A few have been unable to cast aside the habits of a former generation when "the club" was a regular gymnastic exercise. A few have permitted personal and outside matters to impede their evolution. Gradually these are grasping the catholic spirit of the new organization, and its capacity to advantage them equally with others. It is believed that all will soon join us in recognizing the new era of universal brotherhood, now rising from the ashes of a structure in which "everyone was for himself and the devil for the hindmost."

Judicial disagreements have been settled mainly by Branch officials with or without the aid of their Councilor. Our endeavor has been to aid the disputants in grasping all the facts on both sides in the spirit of organization, with the usual result, that both parties accept the manifest equity.

THE JOURNAL has steadily grown in value and popularity. As it costs the Society less than it earns, it is a paying proposition; spreading work accomplished and stimulating better work.

Finally, continued observation shows that the only cement of medical organization is "constant

practice in thinking kindly thoughts, speaking kindly words, and doing kindly deeds" to the indifferent and our enemies. While this practice grows, organization will grow in power to shape the destiny of our art, improve our fortunes and promote an ideal civilization.

REPORT OF COMMITTEE ON LEGISLATION AND PUBLIC POLICY.

W. H. SAWYER, Hillsdale, Chairman.

Your committee begs to submit the following report:

There being no meeting of the State legislative bodies this year, there is consequently little to be done beyond paving the way for subsequent effort.

Your committee would recommend no interference with the present registration law. Under its operation Michigan has been raised to a position second to no State in the union in its requirements for registration in medicine. New York State heretofore has always been credited with having the most exacting entrance examination of any State, and has been correspondingly looked up to; but as our legal requirements today are very much above New York State, Michigan has by far the highest requirements of any State not only of medical education, but still more important, of preliminary qualification.

This committee would also recommend that a special law be drafted and passed that shall make it illegal for publishers to print advertisements that are dangerous to public health and public morals and circulate such advertising matter within the State. Such a law consistently framed would satisfactorily meet this condition. As the State Board of Registration has the right to revoke a license only, and its right to do this is in question, and as many non-residents are without its jurisdiction, its power to suppress this evil is quite limited. The opposition to such a measure would be very strong. As it is difficult to impress the layman with the harm done, and the press is very jealous of any restriction of its rights, only the earnest and united efforts of the profession, working through every right channel, could overcome it and win a victory. However, the initial step has been taken and so should be pursued with the same energy, courage and resource which has evolved the present medical law. It is further recommended that the profession earnestly support the measure recommended by your Committee on Vital Statistics. Because of no systematic and exact method of recording births, much important and valuable data have been lost.

REPORT OF THE MICHIGAN MEMBER OF
THE NATIONAL LEGISLATIVE COUN-
CIL OF THE AMERICAN MEDI-
CAL ASSOCIATION.

EMIL AMBERG, Detroit.

For the fourth time a member of the Michigan State Medical Society is represented on the Auxiliary National Legislative Committee, which is now called the National Legislative Council of the American Medical Association.

The matters which came within the scope of the committee during the last year were:

1. The appointment of Colonel William C. Gorgas on the Panama Canal Commission.
2. A bill to increase the efficiency of the Medical Department of the United States Army.
3. An appropriation of \$400,000.00 for a General Hospital for the Army in the District of Columbia.
4. The Senate amended bill (Senator Heyburn) Calendar 1165, for preventing the adulteration or misbranding of foods or drugs, and for regulating traffic therein.

As you know, there exist besides this committee now about sixty auxiliaries in Michigan, one representative from each county forming a committee called the National Auxiliary Congressional and Legislative Committee of the American Medical Association. Chas. A. L. Reed, of Cincinnati, is chairman of both committees.

It would lead too far to go into all the details of the work done. The letter file which I pass around contains practically all the correspondence of your committee during the last year. In order to give the Medical Society an idea of the manner in which matters are handled, I take the liberty of choosing a few details for illustration, and quote the following:

Cincinnati, O., Feb. 24, 1904.

Dr. Emil Amberg, etc.:

I enclose herein copies of documents relating to the referendum relative to medical representation on the Panama Canal Commission. This is a most conspicuous and important test of the influence which the medical profession may be able to exert, and I ask your earnest and instant co-operation. To this end, please write a letter within twenty-four hours following the receipt of this, urging each County Auxiliary Committeeman in your State to comply with the request which goes to him direct by this mail.

I request that you will be governed yourself by the instructions sent to each Auxiliary Committeeman—i. e., Write the President, write to him, write to your Congressman and Senators,

and bring all possible collateral influence to bear.

Sincerely yours,
(Sgd.) CHAS. A. L. REED,
Chairman.

Telegram to

Hon. Theodore Roosevelt,
President of the United States,
Washington, D. C.

Kindly appoint a representative of the medical profession, if possible Colonel W. C. Gorgas, on the Panama Canal Commission.

(Sgd.) EMIL AMBERG, etc.
Detroit, Mich., Feby. 27, 1904.

Letter to

Hon. Theodore Roosevelt,
President of the United States,
Washington, D. C.

Dear Sir:—

For reasons undoubtedly known to you, the undersigned urges the appointment of a medical man on the Panama Canal Commission.

It appears that Colonel Wm. C. Gorgas, Surgeon United States Army, is well fitted for this position.

It need not be mentioned that the work of sanitation is of the utmost importance, and your honor is no doubt aware of the necessity of entrusting the hygienic work to some one familiar with the subject; therefore, I would not enter into details, as such are easily accessible to your honor.

Very respectfully yours,
(Sgd.) EMIL AMBERG, M. D., Etc.

March 1, 1904.

R. A. Alger, Chairman,
Thos. Grant, Clerk.

Senate of United States
Committee on

Examination and Disposition of Documents.

Dear Sir:—

I have the honor to acknowledge receipt of yours of the 27th of February on re-sanitation of Panama Canal, and appointment of Col. Wm. C. Gorgas on Commission. The letter has been called to the attention of the President.

Very respectfully,
(Sgd.) THOS. GRANT,
Private Secretary.

Emil Amberg, M. D., Etc.

Cincinnati, O., March 5, 1904.

Mr. Emil Amberg,
270 Woodward Ave.,
Detroit, Mich.

Dear Sir:—

I am in receipt of your various favors of recent date, with enclosures, and beg to thank you

for your cordial co-operation. The responses from the profession throughout the country have been most generous and enthusiastic, and while the first referendum itself failed of accomplishment, I do not feel that the effort has been lost by any means, for they now realize at Washington that the medical profession is not only alive but very wide awake, which will ensure more respectful hearing in the future.

I hope my report on the first referendum met with your approval.

Again thanking you, I remain,
Very respectfully,

CHAS. A. L. REED,
Chairman.

P. S.—I am also in receipt of your acceptance to serve on committee appointed to formulate a standard medical practice act, and desire to thank you for the same.

The chairman of the National Legislative Committee has appointed the following committee to formulate a Standard Medical Practice Act: S. D. VanMeter, Colorado (Chairman); J. R. Currens, Wisconsin; W. H. Sanders, Alabama; Emil Amberg, Michigan; J. A. Dibrell, Arkansas.

W. B. Heyburn, Chairman,
Etc., Etc.,

United States Senate
Committee on Manufactures.

April 25, 1904.

Dr. Emil Amberg,
Detroit, Mich.

Dear Doctor:—

* * * * *

Congress will adjourn this week and the "Pure Food" legislation will necessarily have to go over until next Congress. During the recess I hope that the friends of the measure will do what they can toward creating sentiment in favor of it by the circulation of petitions, signed by physicians and prominent citizens, addressed to the Senators of their respective States.

Very truly yours,
(Sgd.) W. B. HEYBURN.

Letters from Senators Heyburn and Burrows, Representatives Hull, Lucking, and other parties, are on file.

Your representative has for a number of years been very much interested in the movement towards interstate medical reciprocity. The American Confederation of Reciprocating Examining and Licensing Medical Board is doing very commendable work quietly and systematically. Your representative is very much pleased with the manner in which the subject is handled.

One of the most important matters for consideration at present seems to be the Pure Food and Drug Bill, to which the enclosed Congressional Record refers. The speech of Senator Heyburn is recommended to every physician and citizen in Michigan for most careful consideration. You will readily see what great responsibility rests upon the medical profession.

I recommend that the Council be authorized to reimburse the committee for exceptional expenses, if the Council sees fit to do so.

In conclusion I wish to thank the County Auxiliaries for their assistance, also all the other members of the State Medical Society, and beg to call their attention to the fact that our work has only begun.

REPORT OF THE COMMITTEE TO PETITION THE LEGISLATURE FOR AN APPROPRIATION FOR THE ESTABLISHMENT OF A PROPERLY EQUIPPED SANITARIUM FOR THE TREATMENT OF THE EARLY STAGES OF TUBERCULOSIS.

B. D. HARISON, Sault Ste. Marie,
Chairman.

It was not possible to get a meeting of the committee up to this time, but as chairman of the committee I have had correspondence with the several members and they have collected statistics and other information relative to the work, and although we have not as yet had a formal meeting of the committee we expect to have one to-day. I have taken the matter up to-day and yesterday with individual members of the committee.

Arrangements are being made for carrying out the work in a thorough manner and to present a proper bill to the legislature at the next session. Yesterday I received word from a prominent Senator who returns to the Senate at the next session, that he would gladly take charge of the bill personally and guaranteed that it would pass both the House and the Senate provided the appropriation asked for was not excessive. I asked what he thought was a fair appropriation and the minimum amount he named was three times as large as the committee thought of asking for, so I think we are safe on that point, and in this connection I think the appropriation asked for last year was rather excessive, because it is not an easy matter to spend \$200,000 economically on a state institution in two years. I think the U. P. hospital spent about \$50,000 the first year, and

this asylum when completed will accommodate some 1200 patients. Usually one building only is provided for in state institutions and when that is completed and occupied another building is started, so that \$200,000 at one appropriation is a large amount of money. A smaller sum is much more practical, and as soon as the legislature commits itself to the principle of supporting a hospital of this kind there will never be any difficulty in the future in obtaining proper appropriations. The main object is to obtain first of all the principle involved—recognition by the legislature—and when you have accomplished that you have accomplished all that is necessary at that time. The rest will come easily.

The committee will take the matter up in a thorough manner, presenting to the legislature a short pamphlet covering the reasons for the establishment of a hospital and other information, but will not go into the subject too technically, so that the ordinary legislator will read the pamphlet. If the legislator is presented with too much technic it is absolutely certain that he will not inform himself upon the subject. Therefore, the committee will endeavor to present to the legislature the facts in as simple a form as possible and in an effective manner. It will also take up the work in a systematic manner with the several County Societies in order to have their influence in favor of the bill.

REPORT OF THE COMMITTEE ON VITAL STATISTICS,

H. B. BAKER, Lansing, Chairman.

May 26, 1904.

About ten years ago a special committee of this Society, under the chairmanship of Dr. Leartus Connor, was appointed to make efforts to secure the proper registration of births and deaths in Michigan. The old law of 1867-69 had proved grossly ineffective for securing accurate statistics, and the fact that such statistics are of great sanitary importance, as well as of value for legal and other purposes, determined the Society to seek an improvement in legislation. After failing to secure the passage of a bill providing for the immediate registration of both births and deaths at one session of the legislature (1895), our efforts limited to deaths only met with success at the ensuing session, and a law for the registration of deaths was enacted in 1897 that at once raised Michigan to the rank of a registration State.

The subject of the improvement in the registration of births remained in abeyance, although the

committee was continued, and bills have been introduced at several subsequent sessions. The latest was that introduced in 1903 by Representative Byrns, known as a bill "To provide for the immediate registration of births and the requiring of certificates of births," which was favorably reported by the Committee on State Affairs of the House.

This bill was drafted in accordance with the principles laid down in the pamphlet on the "Registration of Births and Deaths" published by the United States Census Bureau, and a copy is appended to this report for discussion and criticism by the members of the Society.

Your committee recommends that copies of this report, including a draft of the bill, be submitted to the secretaries of all of the County Medical Societies in Michigan, with requests that the bill be considered by each Society, and that reports thereon, with suggestions, be transmitted to the committee of this Society, who will consider them carefully and, as far as practicable, include them in the formulation of a new bill to be introduced at the approaching session of the legislature.

It is further recommended that this subject be in charge of a permanent committee of this Society, that a reasonable sum for postage be authorized, and that each County Society be requested to appoint a special committee on vital statistics to co-operate with this committee and with the public health committee of the American Medical Association in urging the passage of a suitable bill for the registration of births, and in other measures relating to vital statistics.

HOUSE BILL NO. 256.

MICHIGAN. FILE NO. 279.

INTRODUCED BY MR. BYRNS, FEBRUARY 12, 1903.

Referred to the Committee on State Affairs.

Reported substituted April 29, ordered printed and placed on the general order.

A BILL.

To provide for the immediate registration of births and the requiring of certificates of births.

The People of the State of Michigan enact:

SECTION 1. All births that occur in the State shall be immediately registered in the districts where they occur, which primary registration districts shall be the same as those provided for the registration of deaths by Act number two hundred seventeen of the Public Acts of one thousand eight hundred and ninety-seven, as amended by Acts numbers twenty, and two hundred nine of the Public Acts of one thousand nine hundred one. Local registrars for deaths shall also be the local registrars for births, and the Secretary of State shall be the State registrar for births, as for deaths. Village and city registrars shall, immediate after qualification, designate deputy registrars to act in case of their illness or absence. It shall be the duty of the attending physician or midwife to file a certificate of birth, properly and completely filled out with all the particulars required by

this act, with the local registrar of the district in which the birth occurred, within three days after the date of birth. And if there be no attending physician or midwife, then it shall be the duty of the father of the child, householder or owner of the premises upon which the birth occurred, manager or superintendent of public or private institution or other competent person having cognizance of the facts to file said certificate of birth with the local registrar within three days after birth.

Sec. 2. The certificate of birth shall contain the following items:

1. Place of birth, including state, county, township, village or city. If in a city, the ward, street and house number. If in a hospital or other institution, the name of the same to be given instead of the street and house number.
2. Full name of child. If the child dies without a name before the certificate is filed, then the words "died unnamed" shall be entered. If the living child has not been named at the date of filing the certificate of birth, the space for "full name of child" is to be left blank, to be filled out subsequently by a special return of given name of child as hereinafter provided.
3. Sex of child.
4. Whether a twin, triplet or other plural birth. A separate certificate shall be required for each child in a case of plural birth.
5. Whether legitimate or illegitimate.
6. Full name of father.
7. Residence of father.
8. Color or race of father.
9. Birthplace of father.
10. Age of father at last birthday, in years.
11. Occupation of father.
12. Maiden name of mother, in full.
13. Residence of mother.
14. Color or race of mother.
15. Birthplace of mother.
16. Age of mother at last birthday, in years.
17. Occupation of mother.
18. Number of child, to this mother, of whom how many now living
19. Number of children by this mother.
20. Certificate of physician attending or midwife as to attendance at birth, including statement of year, month, day and hour of birth. This certificate shall be signed by the attending physician or midwife, with date of signature and address. If there was no physician or midwife in attendance, then the father, householder, or owner of the premises, manager or superintendent of public or private institution, or other competent person whose duty it shall become to file the certificate of birth as provided in section one of this act, shall draw a line through the words "I hereby certify that I attended the birth of above child," and shall write in lieu thereof the words "No physician or midwife," filling out the remainder of the certificate in regard to the year, month, day and hour of birth, and signing the certificate as father, householder, owner of premises, manager or superintendent of institution, as the case may be, with his address.
21. Exact date of filing in office of local registrar, attested by his official signature, and registered number of birth as hereinafter provided.

The certificate shall be written legibly in permanent black ink, and no certificate shall be held to be complete and correct that does not supply all of the items of information specified above, if possible to obtain them, or satisfactorily account for the omission of any of said items.

Sec. 3. The local registrar shall supply blanks and instructions, as directed by the Secretary of State, to physicians, midwives, and to other persons requiring them. He shall carefully examine each certificate of birth when presented for record to see that it has been made out in accordance with the provisions of this act, and the instructions of the Secretary of State, and if any certificate is incomplete or unsatisfactory, he shall immediately notify the informant and require him to supply the missing items if they can be obtained. If it is impossible to obtain any such item, then the local registrar shall fill the blank space with the word "Unknown." When any certificate of birth of a living child is presented without statement of the given or christian name, then the local registrar shall deliver to the informant a special blank for the report of the given or christian name of the child, which shall be filled out with the full name of the child, including given and christian name or surname, as soon as such child shall be named, when said informant shall forthwith deliver the properly filled out blank to the local registrar. The original certificate of birth shall not be considered to be complete until such statement of given or christian name shall be filed or the blank returned with the statement "Died unnamed." The local registrar shall immediately number each certificate of birth when filed with him, whether complete or incomplete, beginning with "No. 1" for the first birth that occurs in his district in each calendar year, and sign his name as registrar in attest of the date of filing in his office. He shall make a complete and accurate copy of each certificate registered by him, upon a form identical with the original certificate, to be filed and permanently preserved in his office, as the local record of such birth, in such manner as directed by the Secretary of State. And he shall, on or before the fourth day of each month, at the time of making his monthly report of deaths transmit to the Secretary of State all original certificates of births registered by him for the preceding calendar month, together with any delayed certificates for preceding months, corrections of certificates previously transmitted, and supplemental statements of given or christian names of children whose names were not given in full in certificates previously filed. And if no births occurred in any month, he shall, on or before the fourth day of the following month, report that fact to the Secretary of State in such manner as he shall direct.

Sec. 4. The Secretary of State shall prepare, print, and supply to all registrars all blanks and forms used in registering, recording, and preserving the returns or in otherwise carrying out the purposes of this act, and shall prepare and issue such detailed instructions as may be required to secure the uniform observance of its provisions, and the maintenance of a perfect system of registration. And no other blanks shall be used than those supplied by the Secretary of State. He shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory, he shall require such further information to be furnished as may be necessary to make the record complete and satisfactory. And all physicians, midwives, or other informants, and all other persons having knowledge of the facts, are hereby required to furnish such information as they may possess regarding any birth, upon demand of the Secretary of State, in person, by mail, or through the local registrar. He shall further arrange, bind and permanently preserve the certificates in a systematic manner, and may prepare and maintain a comprehensive and continuous card index of all births registered, the cards to show the name of child, place and date of birth, number of certificate, and the volume in which it is contained.

SEC. 5. Whenever it may be alleged that the facts are not correctly stated in any certificate of birth theretofore registered, the local registrar shall require a deposition under oath to be made by the person asserting the fact, to be supported by the depositions of two or more credible persons having knowledge of the facts, setting forth the changes necessary to make the record correct. Having received such deposition, he shall file it and shall then draw a line through the incorrect statement or statements in the certificate, without erasing them and shall make the necessary corrections, noting on the margin of the certificate his authority for so doing, and transmit the deposition, attached to the original certificate, when making his regular monthly returns to the Secretary of State. He shall correct his register in the same manner that he corrected the original certificate. If the correction relates to a certificate of birth previously returned to the Secretary of State, he shall transmit the deposition forthwith to the Secretary of State. If the correction is first made upon the original certificate of birth on file in the office of the Secretary of State, then the Secretary of State shall immediately transmit a certified copy of the original certificate, corrected as above, to the local registrar, who shall thereupon substitute such certified copy for the copy of the certificate in his records. All such corrections and marginal notes referring to them shall be made in permanent red ink, and no fee shall be charged in connection therewith.

SEC. 6. Each local registrar shall be entitled to be paid the sum of fifteen cents for each birth certificate properly and completely made out and registered with him, and by him returned to the Secretary of State on or before the fourth day of the following month, which sum shall include the making of the copy of the certificate to be filed and preserved in his office. Certificates lacking certain items, including the given or christian name of the child in children not named at the date of filing the report, shall not be considered as defective, provided the missing information is obtained and returned to complete the certificate as elsewhere provided in this act: Provided, That in cities of ten thousand population or more by the last United States or State census, in which the city clerk, or health officer acting as registrar receives a fixed salary, no further compensation shall be paid for the duties required by this act. In case no births occurred during a calendar month, the local registrar shall be entitled to be paid the sum of twenty-five cents for each report to that effect promptly made in accordance with the requirements of this act. All amounts payable to any registrar under the provisions of this section shall be paid by the treasurer of the county in which the registration district is located, upon presentation of a proper warrant issued by the Secretary of State. And the Secretary of State shall issue warrants in favor of local registrars at the end of their official years, or for the year ending March thirty-first when continuing in office, specifying the number of certificates properly registered and promptly returned and the number of prompt monthly reports made by each to the effect that no births occurred, with the amount due at the rate fixed herein.

SEC. 7. At the end of each quarter, the local registrar shall send a transcript of all births registered by him for the quarter to the clerk of his county, and suitable blanks for this purpose, containing all the items now required by county records, together with stamped envelopes addressed to the county clerk, shall be supplied by the Secretary of State. Warrants in payment for returns shall be transmitted to local registrars through the clerks of their several counties, and shall be countersigned by the county clerks to indicate that the corre-

sponding returns have been duly made to them as required above. If returns have not been made, the county clerks shall at once notify the local registrars, requiring them to do so, and if not filed by them within thirty days, shall return the warrants, with full explanations as to the registered numbers not returned, to the Secretary of State, who shall notify the local registrars of their return and, unless satisfactory explanations shall be made or the returns filed forthwith, shall cancel the warrants.

SEC. 8. On or before the tenth day of April in each year, every local registrar shall make out a complete list, on a blank provided by the Secretary of State for that purpose, of the births that have occurred in his district during the preceding calendar year, as registered with him, showing names of parents and dates of birth, and shall on or before the tenth day of April, deliver the same to the supervisor of the township or ward where the births occurred or to the assessor or assessors of the city where the births occurred: Provided, That no such list shall be required for the City of Detroit. The supervisors or assessors, being the officers heretofore charged with the enumeration of births under Section four thousand six hundred five, Compiled Laws of 1897, shall receive such lists of births, and between the tenth day of April and the first day of June shall make diligent inquiry to ascertain whether any other births have occurred in their townships, wards or cities besides those duly registered and reported to them by the local registrars. And if any such births not heretofore registered, shall come to their notice, then they shall immediately fill out a certificate of birth, as required by this act, signing the certificate as supervisor or assessor as the case may be, and shall file the same with the local registrar, together with a statement of the name and address of the physician, midwife, or person responsible for failure to file the certificate of birth immediately after birth, as required by this act, and for each added certificate of birth, duly and properly filled out and filed with the local registrar, the supervisor or assessor shall be entitled to twenty-five cents, to be paid by the county treasurer upon warrant from the Secretary of State in the same manner as to other informants. And it shall be the duty of the Secretary of State to investigate such cases and to prosecute wilful or repeated violations of this act.

SEC. 9. Each physician, midwife, father of the child, householder or owner of the premises, manager or superintendent of public or private institution, or other person acting as informant and filing with the local registrar within three days after the birth of a child a proper certificate of birth, correctly and legibly made out in permanent black ink and containing all the items required by Section Three of this Act, shall be entitled to be paid the sum of twenty-five cents. Only one certificate shall be received for the birth of the same child, the right to file the certificate of birth being the same as the order of responsibility for filing the certificate as given above and in Section One of this Act. Certificates in which certain items are omitted, including the given or christian name of the child, shall be regarded as incomplete, and shall not be entitled to payment, unless the missing information, when possible to obtain, is promptly supplied. All amounts payable to any informants entitled to compensation under this section for all certificates of births occurring during any calendar year shall be payable by the treasurer of the county in which the district of registration was located upon presentation of warrants issued by the Secretary of State as soon as practicable after the close of the calendar year, specifying the number of certificates filed by each informant

containing as subsequently completed and corrected if necessary, all of the information required by this act, and promptly delivered to the local registrars of the districts in which the births occurred within the time fixed by this act.

SEC. 10. The Secretary of State shall, upon request, furnish any applicant a certified copy of the record of any birth registered under the provisions of this act, for the making and certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a birth, when properly certified by the Secretary of State to be a true copy thereof shall be prima facie evidence in all courts and places of the facts therein stated. For any search of the files and records, when no certified copy is made, the Secretary of State shall be entitled to a fee of fifty cents for each hour or fractional hour of time of search, to be paid by the applicant. And the Secretary of State shall keep a true and correct account of all fees by him received under these provisions, and turn them over to the State Treasurer.

SEC. 11. All superintendents or managers, or other persons in charge of hospitals or lying-in institutions, to which women resort for confinement, are hereby required to make a record of all the personal and statistical particulars relative to the inmates of their institutions, there residing for the purpose of confinement, at the date of taking effect of this act, that are required in the form of certificate herein provided for, in addition to such other record as may be required by existing laws or the circumstances of the case. And thereafter such record shall be by them made, for all future inmates, at the time of admission.

SEC. 12. Every physician and midwife residing in at the date of taking effect of this act or thereafter establishing a residence in any registration district, shall forthwith register his or her name, address and occupation with the local registrar of the district in which he or she resides, and shall thereupon be supplied by the local registrar with a copy of this act, together with such rules, regulations and instructions as may be prepared by the Secretary of State relative to its enforcement. A physician or midwife changing residence shall forthwith register his or her name, occupation and address with the local registrar of the district to which he or she removes. Within thirty days after the close of each calendar year, each local registrar shall make a return to the Secretary of State of all physicians and midwives who have been registered in his district during the whole or any part of the preceding calendar year, and in issuing warrants in payment of physicians or midwives for certificates of birth filed by them, the Secretary of State shall not include any physicians or midwives who have not complied with the requirements of this section: Provided, That no fee or other compensation shall be charged by local registrars to physicians or midwives for registering their names under this section or making returns thereof to the Secretary of State.

SEC. 13. Any physician or midwife in attendance upon a case of confinement who shall neglect or refuse to file a proper certificate of birth with the local registrar within the time required by this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars, or shall be imprisoned not to exceed thirty days, or shall suffer both such fine and imprisonment at the discretion of the court. If there was no physician or midwife in attendance upon any case of confinement, then the father, if he shall refuse or neglect to file a proper certificate of birth with the local registrar within the

time required by this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be liable to the same penalty as that incurred by the physician or midwife in case of violation of the law, as above. And in the absence of the father, then the householder or owner of the premises upon which the birth occurred, the superintendent or manager of the public or private institution, shall individually be liable, in the order of their responsibility, and in case of conviction for failure or neglect to comply with the requirements of this act, shall be subject to the penalty imposed upon the physician or midwife in case of similar refusal or neglect. Any registrar who shall neglect or fail to enforce the provisions of this act in his district, or shall neglect or refuse to perform any of the duties imposed upon him by this act or by the instructions and directions of the Secretary of State shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than ten dollars nor more than one hundred dollars, or be imprisoned not over thirty days, or shall suffer both such fine and imprisonment at the discretion of the court. Any person who shall wilfully alter any certificate of birth, or the copy of any certificate of birth on file in the office of the local registrar, except to correct same in the manner provided in this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than ten dollars nor more than one hundred dollars, or shall be imprisoned not exceeding sixty days, or shall suffer both such fine and imprisonment at the discretion of the court. And any other person or persons who shall violate any of the provisions of this act, or shall wilfully neglect or refuse to perform any duties imposed upon them by this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than one hundred dollars, or shall be imprisoned not exceeding thirty days, or shall suffer both such fine and imprisonment at the discretion of the court.

SEC. 14. Local registrars are hereby charged with the strict and thorough enforcement of the provisions of this act in their districts, under the supervision and direction of the Secretary of State. And they shall make an immediate report to the Secretary of State of any violations of this law coming to their notice by observation or upon complaint of any person or otherwise. The Secretary of State is hereby charged with the thorough and efficient execution of the provisions of this act in every part of the State, and with supervisory power over local registrars, to the end that all of its requirements shall be uniformly complied with. He shall have authority to investigate cases of irregularity or violation of law, personally, or by accredited representatives, and all registrars shall aid him, upon request, in such investigations. When he shall deem it necessary, he shall report cases of violation of any of the provisions of this act to the prosecuting attorney of the county, with a statement of the facts and circumstances, and when any such case is reported to them by the Secretary of State, all prosecuting attorneys or officials acting in such capacity shall forthwith initiate and promptly follow up the necessary court proceedings against the parties responsible for the alleged violation of the law. And upon request of the Secretary of State, the Attorney General shall likewise assist in the enforcement of the provisions of this act.

SEC. 15. All that part of Act number one hundred ninety-four of eighteen hundred sixty-seven, as amended by Act number twenty-five of eighteen hundred sixty-nine, being Sections four thousand six hundred and five to four thousand six hundred and thirteen of the Compiled Laws of 1897, and inconsistent with this act, is hereby repealed, except that the births in Michigan during the

year 1903 shall be enumerated, returned and compiled in accordance with said former act. This act shall go into effect for the registration of births in Michigan on January 1, 1904, but the Secretary of State shall take such preliminary steps as may be necessary to secure its enforcement on and after that date immediately upon its becoming a law.

THE RELATION OF THE NATIONAL AUXILIARY CONGRESSIONAL AND LEGISLATIVE COMMITTEE OF THE AMERICAN MEDICAL ASSOCIATION TO THE PUBLIC, AND TO THE MEDICAL PROFESSION.

EMIL AMBERG,

Michigan Member, National Legislative Council of the American Medical Association.

All living beings, with very few exceptions, are eager to live a long life, a life without pain and without affliction. If the conditions of life and the conditions of living would be simple, if all our surroundings would be of a nature which would not be inimical, under circumstances, to human welfare, if all people at all times would knowingly and unknowingly do only what would be conducive to their health and that of others, the field of medicine would be narrowed to a great extent.

Unfortunately, the human race does not live in a paradise of perfection and there are many ills to which the human flesh is heir and many from which he should be protected.

The very nature of men and things prevents the ordinary individual from being able to look into the nature of diseases, to recognize its existence in a given case and to follow a treatment suitable for the same. Hence, he looks to the medical profession for information, for recognition of his affliction and for help.

The afflictions endangering the individual citizen are either of a personal nature, referring to him alone, or of a general nature (epidemics), referring to a number of individuals.

So far as the medical profession is concerned, in connection with afflictions of the human race, they are on the one hand of a nature requiring the services of some consulting colleagues as individuals, and on the other hand of a nature requiring the information and advice of the medical profession as a body. The medical profession is expected to give their information and advice not only by virtue of their knowledge, but also by virtue of their membership in the community. All this is so clear that it requires no further explanation. The question arises: How can the medical profession best perform its duty as a

conservator of public welfare? It can do so by having only physicians of the highest type in the ranks of the medical profession and by being organized, so that their recommendations, advice and warnings carry the full weight required and necessary.

The way of proceeding must necessarily be based on the following conditions and plans:

1. There must exist something which requires the attention of the medical profession.

2. The medical profession, as a whole, not being able to act quickly on matters of importance, must have certain trustworthy representatives who must act for them. They must be able to say the proper thing at the proper time.

3. Whenever the necessity for work arises, things must be said in a way that they may be understood by those public officials whom the public addresses through their mouthpiece.

4. It is necessary to be so organized that should individual physicians be asked to endorse certain matters the response should be quick and decisive.

5. It is imperative that the efforts should be continued until success is achieved.

Let us regard for a few moments these five points. There always existed, there exists and will exist, something which requires the attention of the medical profession on account of the continued progress of natural science. The necessity for the existence of a smaller body within the larger body, viz.: a committee, is obvious. Such a committee represents a public within the medical profession and the medical profession within the public. This gives the nature of our committee in a nutshell. The character of our profession gives the assurance that only just demands will receive any support. In order to overcome prejudice and to reach a certain goal, in our time, when fakirs and medical frauds of all descriptions reign supreme, when the laws of nature are trampled upon by those who blind the eyes of the multitude in order to gain unjustified material profit, a well regulated army is wanted which must be ready for any emergency. It would also be erroneous to assume that only a loose relation exists between proper medical organization and scientific medicine. Medical organization is of prominent significance for our daily medical work. Proper organization will be felt at the blade of the surgeon's knife, at the tender wounds of the patient's body, in the sick room of the distant and lonely farmhouse, where the proper diagnosis in a given case must be determined, and in the laboratories where the advance guard of the medical profession comes in touch with the outposts of the

death-dealing afflictions. Only a well constructed machine, of which all the parts are in good order, can run smoothly. Any derangement affects the whole apparatus.

Our committee work is of a nature in which every physician and every citizen should be interested. In our country, a republic with a democratic form of government, the men in responsible positions feel carefully, conscientiously and expectantly the pulse of the nation. So far the pulse of the medical profession was little perceptible and mostly intermittent, until the mighty stimulus of the reorganization of the medical profession regulated somewhat the hearts of the medical citizens.

From this point of view, the National Auxiliary Congressional and Legislative Committee of the American Medical Association is a needed factor for the public. It is the natural outcome of the efforts of a united profession in the United States, of which the American Medical Association is at present the most powerful representative.

How is the Committee constituted?

As you know, the American Medical Association has appointed a committee on Medical Legislation, consisting of three members.

This committee is enlarged by adding to its number, for certain purposes, one member from each State, and medical representatives from the United States Navy, the United States Army and the United States Public Health and Marine Hospital Service. This enlarged committee is called The National Legislative Council of the American Medical Association.

Besides this National Legislative Council there exists the National Auxiliary Congressional and Legislative Committee of the American Medical Association. This committee consists of representatives of each county.

Dr. Reed, chairman of both committees, whom I had invited to this meeting, has sent me a letter which reads in part:

"My Dear Doctor Amberg:

"I would like very much indeed to meet with you and the County Auxiliaries at Grand Rapids on the 25th of May. Unfortunately, however, my engagements are such that I cannot see my way clear to going away at that time. I wish, however, you would present my most cordial greetings to our colleagues in Michigan."

"May I ask you to do one favor, and that is to insist upon the importance of attention to the work that is sent to the county auxiliaries. Every man holding the position of county auxiliary, ought either to do the work or to resign. It is not fair to the medical profession that it should be

cheated out of the influence to which it is entitled from the territory accorded to any man who gives no attention to its duties. It is perfectly safe to say this thing in Michigan, because it ought to cause less offense there than in almost any other State. The co-operation that we have received from the county auxiliaries in Michigan is, for the most part, very satisfactory. There are some men, however, who may have been giving attention to every request that has been sent them, but from whom it has been impossible for this office to receive either directly or indirectly any evidence of action. I hope you will bring this matter home very pointedly and that you will put the machinery in motion for perfecting organization in your State. It is not enough that we should have an influential doctor, but it is simply essential that we should have a doctor who will work. The man of lesser importance who will attend to the business of the committee is of vastly more importance than a man of greater importance who gives no attention whatever to the matter. I am quite sure that you will take hold of this idea and work it out to a practical conclusion."

All the States are represented in the Legislative Council with the exception of Idaho, Indian Territory, Minnesota, Nevada, and Oregon. County Auxiliaries are organized in all the States with the exception of Idaho, Indian Territory, Massachusetts, Nevada, New Jersey, New Mexico, North Carolina, Oregon, South Carolina, Utah, Virginia and Washington.

As our committee necessarily comes somewhat in touch with the prominent representatives of the people we may well ask to what extent shall a physician participate in politics?

I think that we physicians should be better represented in Washington, and we undoubtedly will be in the course of time.

In order to illustrate the necessity of such a representation let me recall to you the efforts in regard to the pure food and drug bill, which is at present before the nation.

Much more good could be accomplished if the necessary consideration would be given to well established facts. Any violation of the laws of nature is without fail revenged by nature, either on the individual or on the community. The dust question, tuberculosis, epidemic diseases, overexertion, and other conditions will demand our attention.

It is characteristic of our profession that our conception of things tries to be free from prejudice, that our deductions are based on plain and simple facts, that our advice is given solely for

the best possible good of those who ask for it, that our efforts are invariably and continually bent to create harmony between human life and the laws of nature, and that our achievements are only the stepping stone for further work.

Without referring to other measures, I can say that our influence has already been felt at Washington in connection with the work on the Panama Canal, and that the interest of the medical profession and of the public in the Pure Food and Drug Bill has been awakened.

In view of all this our duty lies plainly before us. The public has the right to demand from us to stand by them, and we have no right to withhold our assistance. Therefore permit me to say:

First—That it is absolutely essential that a clear conception should exist as to the nature, the object and the duties of our committee, in the mind of the Society and that of the public.

Second—That the committee member should always be prepared to act quickly and with energy.

Third—That the committee and the Society, as a whole, should be in constant touch with each other, and assist each other so that all work can be done smoothly and without friction.

The memories of lasting value which we take home with us from meetings of this character, are the steps which advance our thought towards betterment of conditions, the incentive towards wholesome efforts, and the feeling that we are enabled to do more good than we did before. I ask every one of you individually to-night to familiarize himself with the working of a committee which is so essential for the welfare of our country, and in conclusion, I beg you to consider yourself as individual members of the State Medical Society, a permanent committee of one, whose object is to work out the old problem before the medical profession, which has existed for thousands of years, which exists to-day, and which will continue to exist to the end of time,—namely, the purity and strength of the craft, the welfare of all our fellow citizens, and the continued increase of health and happiness of the human race.

REPORT OF COMMITTEE TO SECURE DATA REGARDING THE PREVALENCE OF VENEREAL DISEASES IN MICHIGAN.

A. E. CARRIER, DETROIT, CHAIRMAN.

Before submitting the report of the committee Dr. Carrier said in part:

"There is among the profession an apathy regarding the presence of venereal diseases. I do

not think that we realize the number of cases that are present with us in every community, no matter how small nor how large, in this State to-day. It is said that "familiarity breeds contempt," and I think it does regarding these diseases. We have come to regard them as non-dangerous, because the individuals are apparently well as they travel among us, while they are in fact centers of infection, where innocent people may contract the disease readily. Our report then will be a very meager one; it is simply a matter of statistics. Before, however, reading the report I desire to say a few words regarding venereal diseases and the methods of controlling them; and I hope the Society will discuss this report most thoroughly.

Regarding the prophylaxis or the prevention, in a medical way, is there any way of preventing the spread of venereal diseases? From our reports we have to-day 2,500 centers of infection in Michigan from individuals who are suffering with syphilis in the primary stage. We have sixty-five hundred cases, or center of infection from syphilis in its secondary stage—nine thousand centers of infection. If you had a case of smallpox every newspaper in the city and every doctor would be up in arms in a moment to have it isolated. Yet the danger resulting from smallpox does not begin to compare with the danger which results from the contraction of this one disease. More than this, syphilis is a disease capable of transmission by inheritance; it is capable of transmission by acts that are non-venereal, and by other means than illicit intercourse. From the suggestions we have gotten from those who have reported, a number have made statements like this: the disease is prevalent in my community; is not contracted so often from prostitutes. And that, I guess, is the opinion shared by most of the members of this or any other Medical Society. The drinking cup, the railway car, the lavatory, the barber shop, brushes and combs, household utensils are all means of infection to innocent sufferers. If the penalties of the disease could be vented upon the individuals who contracted it by illicit measures, we would not think so much about it—regard it maybe as a punishment for their sins—but when it comes to the innocent sufferer, when it may come to your wife, or your daughter, in the use of the drinking cup, in the sleeping car, in the use of the lavatory—when they may be infected with a disease that may last through a life-time, with all the dire results that come from it—it seems to me something should be done in the way of attempting to prevent the spread of the disease.

A great deal has been written, and a great deal has been done in other portions of the United States, and foreign countries, regarding the arresting, or corraling, of individuals who are suffering from these diseases, and the prevention of contagion to others. The various legal enactments have been failures. One reason for their failure has been that they have been directed towards the female offenders. The male offender is just as bad, if not worse, than the female, so that legal enactments are of very little value in controlling the disease. It seems to your committee that the first thing that should be done in the way of control of these diseases should be by means of education; that the people should know that stalking in their midst are these centers of infection, and should know the means by which they may be contracted. I know that it is a difficult thing for parents to educate children. It is a hard thing for a father to educate his son to tell him what the dangers are and call his attention to them; and yet your newspapers are covered—whole pages of your newspapers will be covered with advertisements regarding this disease or other venereal diseases and the cures for them, that are a hundred times more damaging to the children than would be anything you could do in the way of calling attention to the matter. Suggestions have been made regarding the teaching of the dangers of these diseases; that the lady teachers should teach the girls, and that the male teachers should teach the boys.

What will you do?"

Your committee begs to report as follows: Our report emphasizes again the fact of the difficulty attending the gathering of medical statistics, but we had hoped that at least one-fifteenth of the members of this Society would have given two minutes of their valuable time, and two-and-one-quarter cents of their hard earned wealth to aid us in our effort to collect facts that might be of value to the individual members of this Society, by awakening them to the necessity of more stringent measures for the control of the most dangerous diseases that are prevalent in every community during every day of the year, and which neither our State, City, nor County Health Boards has formulated any rules looking to the control of these affections.

In our efforts to secure data for this report a blank form was interleaved in the August number of the STATE JOURNAL, and of course every member of the Society received one.

Eighty physicians have responded, and the following is a tabulation of their reports:

Number of reporters..... 80

Population of territory reported on.....623,900
Total number of physicians practicing in
this territory 1,384

SYPHILIS.

Total number of cases of syphilis reported.. 341
Cases of primary syphilis 53
Cases of secondary syphilis..... 130
Cases of tertiary syphilis..... 103
Cases of inherited syphilis..... 38
Cases of innocent syphilis..... 17

The stage of the disease was not reported in the cases of inherited or innocent inherited, or innocent syphilis.

GONORRHOEA.

Total number of acute cases..... 165
Total number of chronic cases..... 116
Gonorrhoeal infection 32
Total number of cases due to gonorrhoea.. 313

CHANCROID.

Total number of cases reported..... 38
Total number of cases of venereal diseases
reported 692

SEX.

Males suffering from syphilis..... 201
Females suffering from syphilis..... 140
Males suffering from gonorrhoea..... 202
Females suffering from gonorrhoea..... 111

Sex of those suffering from chancroid not reported.

Population of Michigan, (U. S. census
of 1900) 2,430,982
Doctors of all kinds in Michigan (Polk's
Directory) 4,449

Physicians reporting 80, not quite 2%

If a report had been obtained from all physicians in the State, estimating from the reports we have at hand, there would have been in Michigan August 1st, 1903,

Cases of primary syphilis..... 2,600
Cases of secondary syphilis..... 6,500
Cases of tertiary syphilis..... 5,200
Cases of inherited syphilis..... 1,900
Cases of innocent syphilis..... 800

A total of 17,000
Cases of acute gonorrhoea..... 8,200
Cases of chronic gonorrhoea..... 5,800
Gonorrhoeal infection 1,600

Total number of cases due to gonorrhoea 13,600

Total number of cases of chancroid..... 1,900
Total number of sufferers from venereal
disease in Michigan Aug. 1st, 1903..... 32,500

FREE DISPENSARIES, ETC.

Add to this number the cases that are treated by the irregular, the untreated by the druggist, and the advertised patent medicine cures and the proportion would be very much larger even than the estimate.

The suggestions regarding the best means of preventing the spread of these diseases were as follows:

Fifteen reporters suggested educating the people in the dangers of these diseases.

Twenty-three suggested regular examinations of prostitutes.

Another suggestion was the reporting of venereal cases the same as other infectious diseases.

Correspondence.

EDITOR.—I am pleased to note in the June issue of *THE JOURNAL* your editorial on "Protection of Physicians Against Blackmail." Dr. Bacon, a member of the committee referred to, of the Chicago Medical Society, recently gave the class at the Chicago Polyclinic some rather startling statistics on this subject. I believe he told us that some 70 cases had come before them for adjustment and in nearly all instances they had been able to settle them without litigation. It seems that the most fruitful source of such trouble is puerperal infection. At the meeting of the Michigan State Medical Society, held in Kalamazoo, I called attention to the ill effects which this misleading enthusiasm of the medical profession in regard to puerperal infection might have. It is not right for the medical profession to ignore all sources of infection in these cases save those from without.

It seems to me one of the first duties of the Michigan State Medical Society is to take some measures for protecting its members from blackmail, and I trust you will keep the ball rolling until you have brought this about. If I can help you any, let me know.

Yours very truly,

FRED R. BELKNAP.

Benton Harbor, Mich.

Visceral Crises in the Erythema Group of Skin Diseases.

Conclusions:

1. In children with colic, a full history should be obtained, which may bring out a history of previous attacks of either skin lesions, arthritis or intestinal crises.

2. There should be a most careful inspection of the skin for angioneurotic oedema, purpura, or erythema.

3. Recurrent attacks of colic may be for many years the sole feature of this remarkable disease.

4. The colic is the most common of the visceral manifestations, and so far as the writer knows, it is never dangerous.

5. Infiltration of the intestinal wall with blood and serum is the cause of the colic. (*The American Journal of the Medical Sciences*, May, 1904. WILLIAM OSLER).

Alcoholism, Morphinism, and the General Class of Drug-Habit Cases.

1. Cause of nervous symptoms:

These depend directly on a disturbance of the vascular system in the nerve centers and the circulatory disturbance is due to paralysis of the sympathetic or vaso-motor centers.

2. Treatment:

(a) Cold applied to head and spine.

(b) Galvanization of chain of sympathetic ganglia from occiput to sacrum (stroking). Quantity of current used was 10 to 15 milliamperes. The duration of treatment was 20 minutes.

(c) Static wave.

(d) Dry-cupping over entire spine.

(e) Massage.

(f) Ergot hypodermically.

This contracts blood-vessels. (*New York State Journal of Medicine*, Jan., 1904. LIVINGSTON).

Icterus in Secondary Syphilis.

The diagnosis of this manifestation is usually easy.

1. There are the history and the signs of syphilis.

2. Icterus appears in secondary stages of syphilis.

3. Icterus appears simultaneously with secondary lesions.

4. Icterus is influenced by specific treatment.

5. Icterus may recur.

6. Icterus appears rapidly without digestive disturbances.

7. Etiology is obscure.

8. Even grave cases, if properly treated, are rarely fatal.

9. The treatment consists in ordinary treatment for syphilis in this stage. (*The American Journal of the Medical Sciences*, May, 1904. N. F. CALVERT).

Typhoid Fever and Acute Miliary Tuberculosis.—Acute miliary tuberculosis may simulate typhoid fever so closely as to offer the greatest clinical difficulty. The absence of the Widal reaction, of the characteristic eruption and of the comparatively slow pulse in miliary tuberculosis, are to be especially noted. A careful search for tubercles in the choroid and for tubercle bacilli in the blood, and from the eruption and in the sputum (if there be any) should be made. The personal history is often most helpful. (*The American Journal of the Medical Sciences*, May, 1904. JAMES M. ANDERS).

Book Notices.

Under the Charge of

RAY CONNOR.

A SYSTEM OF PRACTICAL SURGERY. By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Lubingen, and J. von Mikulicz, of Breslau. Edited by Dr. William T. Bull, of New York. To be complete in five imperial octavo volumes, containing 4,000 pages, 1,600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50 net. Volume II just ready, 820 pages, 321 engravings, 24 plates. Lea Brothers & Co., Philadelphia and New York, 1904.

The appearance of the second volume of this system so soon after the initial one amply fulfils the promises of the publishers and gives further assurance of a speedy completion of the series. The book before us fully sustains the high standard of its predecessor. The Surgery of the Neck, Thorax and Spinal Column is presented systematically and well.

Cervical fistulæ are discussed under malformations and diseases of the neck and their origins either from the second branchial cleft or the ductus thyroglossus shown. The anatomical relations in the neck are beautifully illustrated by reproductions of Spalteholz's well known plates. O'Dwyer's intubation tubes are figured in the section on the larynx and trachea and the method of introducing them made clear by a full series of illustrations. The various methods of treating carcinoma of the larynx are given and the marked improvement in the statistics of recent years makes very encouraging reading for those who have seen only fatal cases of laryngectomy. An artificial larynx is figured and the many difficulties which beset its use set forth in the text.

The surgery of the thorax and its contents as far as it has been developed is next presented. The section devoted to the mammary gland is comparatively short, considering the frequency of operation and its importance. The volume closes with a discussion of the injuries, malformations and diseases of the spinal cord and vertebral column in which the various exercises, plaster jackets, etc., are described and illustrated.

One of the few blemishes one notices is the omission of the names of the authors at the beginning of almost all the chapters. This is in marked contrast to the first volume, where each writer is given credit for his own work. In the present volume many references are made to the author's practices and opinions, but as his name is not given these fail to convey anything to the reader. The list of writers can be found at the beginning, but a labeling of each chapter would be much more satisfactory.

The same lavish illustrating is carried out as in Volume I and the high standard, both

of form and substance, promises to make this the best reference work on surgery in the English language.

MUSSEY'S MEDICAL DIAGNOSIS. A Practical Treatise on Medical Diagnosis for Students and Practitioners. By John H. Mussey, M. D. New (5th) edition, revised and enlarged. In one octavo volume of 1,213 pages, with 395 engravings and 63 colored plates. Cloth, \$6.50; leather, \$7.50; half morocco, \$8.00, net. Lea Brothers & Co., Philadelphia and New York, 1904.

This well known book has suffered an entire rearrangement in the interest of simplicity and utility. It is divided up into two main portions—General and Special Diagnosis. Under the first heading are considered the History, Symptoms, Physical Signs and Laboratory Diagnosis, while under the second are taken up the systemic diseases and the various ailments in which one or more organs are the chief sufferers.

In order to keep abreast of the subject one hundred new pages have been added in this edition and the volume rivals in size a practice of medicine in which aetiology, pathology, symptoms, diagnosis, prognosis and treatment are each and all considered. The paramount importance of a diagnosis is self-evident and he who would practice rational medicine must make one in as large a number of cases as possible. The aids to the scientific physician have grown almost beyond bounds, but the essential ones can be employed in all doubtful cases. It is to aid the conscientious doctor to get to the right conclusion in these cases that this book is of chief service. The illustrations are a very strong feature of this edition and show a marked improvement over previous ones. They serve to make the text much more intelligible.

The work continues to be a standard on this subject and contains a great mass of facts, practical and so arranged as to be accessible for those, whether graduate or under-graduate, interested in the science of medicine. The arrangement has been made much more natural and logical and the index at the end adds greatly to its value as a work of reference.

The style is clear and the matter, despite the length of the book, as much condensed as is consistent with lucidity. The mechanical features of the work are excellent and the reproductions very well done.

A MANUAL OF GENERAL PATHOLOGY FOR STUDENTS. By Sidney Martin, M. D., F. R. S., F. R. C. P., pp. 502. P. Blakiston's Son & Co., 1904.

General pathology bears the same relationship to gross pathology and microscopic path-

ology as physiology does to anatomy and histology. It is the study of the processes of disease and as such is the corner stone of rational medicine. The questions considered are fundamental and consequently of the greatest importance. The text-books on the subject in English at least are far from numerous and as yet leave much to be desired.

The one before us is based on a course of lectures delivered at the University College, London, and are intended primarily for students. It makes little appeal to the so-called practical man who depends for his growth in medical knowledge largely on what he sees and hears. In the interests of simplicity no references to the literature have been attempted, as these would fill a volume in themselves.

Inflammation is first considered and the classical symptoms, rubor tumor, dolor calor, are given with that later member, *functio læsa*. The changes in the circulation which constitute so large a part of inflammation are described, as well as phagocytosis. Then infection is taken up and dealt with at considerable length, the various kinds being discussed in turn.

Changes in the circulation, respiration and blood in disease are given separate chapters and the effects of disease of the liver, kidney and ductless glands take up as many more. The considerations of changes in the nervous system closes the book.

Numerous woodcuts illustrate the book and some of the figures are colored. Nothing new seems to have been added to the subject by the publication of this work and while a great deal of excellent material is to be found in it, neither the arrangement nor presentation seems a particularly attractive one, at least for the general practitioner.

MANUAL OF MATERIA MEDICA AND PHARMACY. Specially designed for the use of Practitioners and Medical, Pharmaceutical, Dental and Veterinary Students. By E. Stanton Muir, Ph. G., V. M. D. Third edition, Revised and enlarged. Crown Octavo, 192 pages. Interleaved throughout. Cloth, \$2.00 net. F. A. Davis Co., Publishers, Philadelphia, 1904.

As the title implies, this work consists of two main parts, first a consideration of individual drugs, and second, pharmacy. Under the first portion, many new and some old drugs are omitted and the effort made to take up only such as are in every day use and of recognized value. The Gordian knot of classification has been cut by adopting an alphabetical arrangement of the drugs. The com-

mon name of the preparation is first given, with its ordinary synonym. Then a brief note on its preparation. Then its description, therapeutic action and finally its dosage, not only for man, but also for the horse, cattle, calf, dog, etc., when used in veterinary medicine. The official preparations are also given when they occur as is the toxology of poisonous drugs.

The processes used in pharmacy are described in the second portion of the book, and the classes of official preparations given as well as the individual preparations under each class. A few words on incompatibility closes the book. A very brief and incomplete index is added.

The metric system is given the preference through the book, although the equivalents are usually given in the older system. The book is nicely printed and the blank pages inserted alternately with the printed ones gives the student an opportunity to add to the text as he sees fit.

THE TECHNIQUE OF SURGICAL GYNECOLOGY. Augustin H. Goelet, New York City. International Journal of Surgery Co., 100 William St., New York City. Cloth. Pp. 340. Price, \$2.00.

This little treatise, devoted exclusively to a description of the technique of gynecologic operations, will be very useful to the practitioner, who, not having had hospital opportunities, wishes to do minor pelvic surgery. For the experienced surgeon and specialist, it has but little value.

The aseptic technique and the directions for pre-operative preparation and post-operative treatment are good. Especially to be commended are the careful and detailed descriptions of the minor operations, such as curettage, repair of cervical lacerations, repair of the relaxed vaginal outlet and of vesico-vaginal fistula.

In the chapters dealing with the major work, certain typical operations are as well described as is possible. To one with experience they seem trite, to one with no experience, they might give a clear idea of the simplest uncomplicated cases. Variations, influencing technique are so common, however, that the description of the method of removing, for example, the normal uterus would be helpful in but few cases.

On the whole the book is well prepared. The text is clear and the illustrations illustrate. A good index adds much to the worth of the work.

B. R. S.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Sulphurous Acid as a Food Preservative.

—Either the acid itself or the calcium or sodium salt have long been used as food preservatives for fish, meats, fruits, jams, dried vegetables, cider and wines, particularly to improve their appearance. On meats the salts increase the redness and is used especially in the preparation of Hamburg steak. In this form of meat inferior and stale portions are used and the sodium salt changes the hemoglobin into oxyhemoglobin, destroying the foul odors and making the meat look like fresh products. While the odors disappear under its use the number of bacteria do not diminish and the treated specimens have a slimy feel and peculiar tenacity to the finger. The bright red color is on the surface only, but when the mass is opened, the color brightens. The persistency of the color depends upon the amount of salt used. As sodium sulphite is not a powerful germicide, the number of bacteria will not depend upon the amount of the salt used. But 0.1% is necessary to produce results and usually 0.2% is used. The use of sulphurous acid and its salts as food preservatives has received but little attention in this country so far, but abroad there are many reports of the prevalence of its use. In one town in Germany out of 121 butchers, 112 were brought into court for using the adulterant. In Boston Harrington found that every one of fifty samples examined by him contained amounts varying from 0.961 to 1.225%. These samples were collected from dealers supplying all classes of customers with meat varying in price from seven to fifteen cents a pound.

In the stomach the sulphites are changed into sulphur dioxide by the gastric juice. The effect of sulphur dioxide on the system seems to be a little in doubt, several observers claiming it produces gastric disturbance while others claim it has no effect. In 1898 the German Imperial Board of Health prohibited its use in food, asserting that the sulphites can injure the system, especially in the case of the weak and sick. Harrington's cases, cats fed with meat treated with the sulphites, showed almost constant degenerative changes in the kidneys with the other organs fairly normal. It would therefore seem that the use of sulphurous acid and its salts, if not harmful, is at least undesirable in food.—(CHARLES

HARRINGTON, in *Boston Medical and Surgical Journal*, May 26, 1904.)

Disinfection of the Clinical Thermometer.

—The value of two or three drops of formalin (40% solution of formaldehyde) put into the thermometer case as a disinfectant has been tested by Denny. Twenty-five tests were made with the diphtheria bacillus, the typhoid bacillus and the spores of the bacillus subtilis, also with secretions from the mouth. The thermometer was exposed from five to twenty minutes to the formalin gas after inoculation with the different germs. No growth was found in any of the tests, though the controls all showed marked growth after similar treatment without the use of the formalin. Since the presence of early stages of contagious diseases is often impossible to detect, such a simple and efficient means of rendering the thermometer free from danger should be more often used by than it is. He recommends that the case have a fresh solution every two weeks and particularly that the thermometer be washed both before and after using. In case there is a failure to wash before putting into the mouth no harm occurs beyond the unpleasant taste to the patient.—(*Boston Medical and Surgical Journal*, June 2, 1904.)

The Medical Aspects of Decapsulation of the Kidneys for Bright's Disease.

—After a very careful review of the subject, Elliott makes the following conclusions: General œdema in chronic renal disease, is a cardiac dropsy from myocardial degeneration. Also the anuria and uræmia are cardiac. In fact the case becomes largely cardiac in the later stages. The mere fact that the general condition of the patient improves after decapsulation does not establish the validity of the operation. As factors of hygiene and rest are invariably associated with surgical procedure, it is possible that the resulting benefit may to some extent accrue from those sources. The results of experimentation demonstrate that within a period of three months and a half after decapsulation a new, and in most cases, a tougher fibrous envelope has taken the place of the original capsule. This fact may account for the many relapses and deaths after a period in cases operated upon and in chronic cases, at least it narrows the prospect of improvement to a period of months.—(*N. Y. Medical Journal*, June 4, 1904.)

SURGERY.

Under the charge of

MAX BALLIN.

Hepato-Cholangio-Enterostomy — Hepato-cholangio-Enterostomy is an operation Kehr performed for the first time in a case of total obliteration of the hepatic, common and cystic ducts, where total retention of bile (gray stool-deep icterus) threatened early death. The patient was a woman 54 years old. In a former operation the gall bladder had been removed on account of inflammatory adhesions. No cancer had been found, but all the ducts seemed to be tightly imbedded in inflammatory adhesions. Drainage of the gall-ducts was impossible, a simple cholangio-stomy-opening of biliary ducts of the liver—would have given a complete biliary fistula, so Kehr excised an elliptical piece, 6:2 cent. from the lower edge of the liver, deepened the hole with the thermocautery, opening some of the biliary ducts in this way and sutured the whole liver wound into an incision (6 cent. long) of the duodenum. After operation icterus disappeared, stool became bile-colored, and patient improved in weight. Kehr warns one not to employ this operation in obstruction of cancerous nature, but only in the few rare cases of total inflammatory obstruction of the gall ducts.

Trephining Under Local Anesthesia—Heidenhain had very satisfactory results in two cases of trephining, by the use of Braun's method of local anesthesia. In both operations, a large piece of the skull was resected, and the incision, chiseling, etc., was entirely painless. Braun's solution consists of:

Cocain, hydrochlor05 gr.i.

Aq. destill10 3iiss.

Add 1:1000 Adrenalin Solution.

Drops 15.

Fifteen drops of this solution, injected in the subcutaneous tissue, is sufficient to anesthetize in half an hour an area the size of a dollar. This anesthesia will last for hours. Injection of the solution right on the bone renders the bone and the dura mater senseless in 30 to 45 minutes. It seems that the addition of Adrenalin enables one to use more cocaine, without causing cocaine intoxication.

Heidenhain thinks that even on the skull 2-2½ grains of cocaine can be used, combined with Adrenalin, that is: 20 Cc. or 5 drachms of the above solution. As a precaution against toxic action of the cocaine, he keeps the patient in a horizontal position, during the operation and for

one hour afterwards, and gives some strong coffee with whiskey as an antidote. (*Zentralblatt für Chirurgie*, 1904, No. 9. L. HEIDENHAIN.)

Operations in the Thoracic Cavity with the Aid of Sauerbruch's Air-Chamber—One of the main dangers of an intra-pleural operation is pneumo-thorax. Double-sized pneumo-thorax is fatal. One-sided pneumo-thorax, if caused by a very large opening of one pleural-cavities, is also very dangerous, because it causes compression of the mediastinum, heart and the other lung.

Pneumo-thorax is not so dangerous in empyema operations, because the lung is already compressed by the pus, but is very dangerous in operations for abscess in the lungs (unless adhesions exist between lung and pleura) and in operations on pericardium and heart and on the endothoracic part of the esophagus.

The atmospheric pressure in the pleural cavity averages—7 Mm. Hg. Two ways exist for preventing collapsing of the lung in opening the pleura:

First—Causing over-pressure through the trachea, so that the intra-bronchial pressure is greater than the atmospheric pressure. Second—Exclusion of the atmospheric pressure from the opened pleural cavity. In using this second method, Sauerbruch constructed a large pneumatic cabinet, in which a constant negative pressure is maintained, by means of a suction-pump. In experimenting, the animal's head is outside of the chamber, which closes air-tight around the neck of the animal. The other part of the animal, the surgeon and assistants are inside the chamber. The animal breathes under atmospheric pressure, the opened pleura is under negative pressure. The result is that on opening the pleura, the lungs do not collapse, but keep their normal volume.

The first method was also tried in experiments. The animal's head was brought into a chamber, in which over-pressure existed, but the other method seems to be preferable. Miculicz expects a great future for endothoracic operations on lungs, heart and esophagus through the aid of these methods, which so far have been tried on animals only. This same line of study is being pursued in several of the large university clinics of Germany and is given much space in recent literature. (*Deutsche Medizinische Wochenschrift*, Nos. 16 and 17. J. von MICULICZ.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Early Signs of Pregnancy.—Every addition to our means of diagnosing pregnancy during the early weeks, is welcome. Johnson describes a sign which he has never found in any condition other than pregnancy and cites cases which, unsuspected by the patients, were differentiated by it. This sign consists of an intermittent hardening and softening of the portio-vaginalis, with often a change in color from a pale violet to a pinkish hue. The changes in consistency are apparent to the touch, while the alterations in the color may be observed by means of a speculum.

The author points out that these signs are probably the early manifestations of what are subsequently recognized as the intermittent contractions of the pregnant uterus and are probably due to the necessity for some change in the uterine circulation, incident to the nourishment and growth of the impregnated ovum, through physiologic intermittent congestion of the generative system.—(*Jour. A. M. A.*, Feb. 20, 1904.)

Sepsis During the Puerperium.—In writing of the frequency of puerperal sepsis one hundred years ago, Horocks states that it was so common that Nisbet defined pregnancy "as a certain inflammatory disposition of the body or nearly approaching it." Fever, following parturition, was the rule and not the exception. Horocks divides fever during the puerperium into the following groups: (1) Puerperal fever or puerperal septicemia of the worst and generally fatal type; (2) puerperal sapremia, which is usually accompanied by an offensive discharge and which is generally recovered from; (3) puerperal pelvic cellulitis; (4) puerperal pelvic peritonitis, non-fatal usually; (5) puerperal pyemia, often a late stage of any of the preceding, fatality dependent on the virulence of the infection; (6) phlegmasia dolens, now believed by many to be due to sepsis; (7) milk fever; inflammatory; often transient; probably septic; non-fatal.—(*Br. Med. Jour.*, Feb. 13, 1904.)

Supra-Vaginal Amputation in Hysterectomy.

—Despite the old saying that "figures never lie but liars sometimes figure," statistics, especially when collected from a large number of sources, are worth something. Hayd cites the collective death rate of hysterectomy by the supra-vaginal method as 5.6%, while that of panhysterectomy, he says, is 9.6%. The work of individual operators is of course much better, in both these procedures, than these figures would indicate.

Among the advantages of the former method are less post-operative suffering, shorter convalescence and less difficulty in operating. Hayd believes that supra-vaginal amputation meets nearly every indication as it can be applied to every conceivable kind of tumor, regardless of the length of the pedicle or the depth of extension into the pelvic tissues. It makes a clean and ideal piece of surgery and is the operation of choice, excepting in those cases where drainage must be provided or where the cervix, for other reasons, must be removed.—(*Am. Jour. Obs.*, January, 1904.)

Renal Decapsulation from the Standpoint of the Pathologist.

—Van Cott and Murray report the results of a series of experiments, undertaken for the purpose of determining the effect of decapsulation upon normal kidneys and the relation of collateral circulation on atrophy of the kidney. Sixteen operations were done on eight cats; in part, the capsule was stripped off and the organ replaced; in others, the decapsulated kidneys were implanted between the muscle and the integument. As a secondary operation, the vein alone, the artery alone, and the two together were ligated. The uniform result was a positive injury to the normal kidney. The conclusions are: (1) on teleologic grounds, the renal circulation can not be restored by decapsulation; (2) no amount of circulation would restore the covering of the cortex; (3) chronic nephritis being a local expression of a general disease, will yield only to such treatment as is calculated to cure the general disease.—(*Med. News*, May 21, 1904.)

Renal Re-decapsulation.—Edebohls states that after the capsule has been removed from a kidney a new one forms, more vascular than the original. He cites an instance in which he removed this new formed capsule at a second operation, two years after a double decapsulation. The patient was a male, aged 26, who suffered from chronic Bright's disease. After the first operation there was little or no improvement. Two years later the symptoms became more severe and Edebohls repeated the double decapsulation. The kidneys were found to be the same size as before, but were distinctly less dense and less friable. The capsules stripped off readily. The operation was done as a last resort, the patient being in an uremic condition. Death resulted in five hours.—(*Med. Record*, May 21, 1904.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Organo-therapy in Pancreatic Disease.—As the result of experimentation carried on to test the value of organo-therapy in pancreatic disease, Glaessner and Sigel come to the following conclusions:

Threoidin has an unfavorable influence upon the symptoms of pancreatic disease.

Pancreon has a slight influence on nitrogen absorption and no influence on fat absorption.

The influence of pancreatin on both was plain, nitrogen absorption arising from 52.2% to 56.7%, fat absorption arising from 40.9% to 68.5%.

Much more evident was the favorable influence when besides pancreon or pancreatin large doses of sodium bicarbonate were employed. With the former nitrogen absorption increasing from 54.5% to 58%, fat absorption 43.7% to 58.7%, while with the latter the nitrogen increase was from 53.1% to 62%, fat absorption from 37.9% to 69.8%.

The employment of alkali alone has only a slight favorable influence.

Pancreatin and sodium bicarbonate had shown itself the best of the combined preparations—(*Berl. Klin. Woch.*, April 25, 1904.)

Pneumonia in Children.—Place the child in a room having fresh air, and admit all the sunlight possible. The temperature of the room should be 68° to 72° f. There are three methods of eliminating toxins—bowel, skin, and kidneys. He used tincture aconite one drop with spirits of mindererus one-half drachm, at intervals of one hour until diaphoresis sets in, also hot mustard foot bath. If fever persists, sponge surface with alcohol and tepid water every half hour. With temperature of 105°, watch for nervous symptoms. Combat fever at this stage with cold bath at temperature of 70-80°. Take good care of action of bowels. Food and water should be given in sufficient quantity, and the child should be allowed to rest as much as possible.—FISCHER, *N. Y. Med. Rec.*, April 23, 1904.)

Insomnia.—Feilchenheld divides insomnia into three forms, the cerebral or neurasthenic cardiac in which there is functional or organic heart disease, especially transient dilatation of the heart, and intestinal, dependent upon gastro-intestinal trouble in which the formation of gas is one of the chief symptoms. In treatment, he considers hygienic and hydrotherapeutic measures of first importance. He advises the uses of very small doses of narcotics, and mentions morphine, codeine and sulphonal in particular, interdicting

their use when the soporific effect is preceded by a stage of stimulation. In the cardiac form, he has used with success $\frac{1}{4}$ grain doses of powdered digitalis combined with 1-25th grain of morphine hydrochlorate. In the intestinal form, he uses sulphonal in divided doses, beginning with a 4 grain dose in the early afternoon and repeating two or three times throughout its course. No matter whether large doses have been tried, and found useless, one will often be agreeably surprised with the effect of these drugs in the small doses advised.—(*Berl. Klin. Woch.*, March 14, 1904.)

Atropine Poisoning.*—Stalberg describes a recent case in the following words: Upon arrival, I found the patient on his feet; at times attempting to stagger across the room; at others stooping and supporting himself on the bed post. His eyes were wild, brilliant and staring, and the pupils dilated to their utmost. The face was flushed, and there was somewhat an expression of terror. The fingers were restless, and he was continually buttoning and unbuttoning the vest, suspenders, etc. He several times bent under the bed as if in search of something. He was semi-delirious, and chattered continually and incoherently. Several times he exclaimed: "Let me bark; I want to bark." His voice was husky, and his mouth, tongue and pharynx parched. He had a constant desire to micturate and passed a quantity of urine every few seconds. The temperature was normal; pulse, 120. The patellar reflexes were exaggerated. Morphine and pilocarpine muriate were used as antidotes.—(*Jour-nal Med. Sc.*, March, 1904.)

For acute bronchitis, in the dry stage, use

Syr. scillac comp.....6 3iss.
Syr. ipecac10 3ijss..
Cig. cinn amomi.....20 3v.
Syrupiq. s., ad, 60 3ij.
Aq. sinnamomi.

M. Sig. Teaspoonful every 2 or 4 hours. For an adult, if the cough is painful, add Codeinae Sulph. gr. 2 to 4.

In the later stages, use

Ammonii chloride2 3ss.
Sodii iodidi2 3ss.
Syr. Sarsaparilla comp.....60 3ij.

M. Sig. Teaspoonful 3 times a day.

*Note the unusual symptoms, frequent micturation and normal temperature.

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

A Diagnostic Syndrome For Intra-Cranial Syphilis.—In a paper read before the Hudson County (New Jersey) Medical Society, Dr. Wm. B. Pritchard, New York, states that in nervous and mental diseases syphilis is of pre-eminent interest, the most prolific single cause of disease of the cerebro-spinal system, by inducing underlying structural changes with varied and widespread clinical manifestations.

Given a patient between the ages of 25 and 45, affected with any form of intracranial paralysis, which was preceded by headaches, of nocturnal onset or exacerbation, associated with vertigo and with insomnia, the insomnia occurring during the first half of the night, the paralysis developing during sleep, both headache and insomnia disappearing upon the onset of the paralysis; the cause is syphilis.

Beyond forty-five or fifty, retrograde tissue changes are beginning, especially arterial degeneration, the cerebral symptoms resulting therefrom resembling more closely those of syphilis.

Some disturbance of sleep is almost invariably present during the developmental period of intercranial syphilis; the younger the patient, the greater the tendency to insomnia; the older the more marked the morbid somnolence.

The tendency of syphilitic paralysis to develop during sleep is explained by the fact that the lesion usually being an obstructive endarteritis, the tendency to occlusion from thrombus or otherwise is greatest during sleep, the heart's action being less, dynamically, and the vis a tergo greatly reduced.

There are other presumably familiar signs by which we are assisted in recognizing a syphilitic origin for intracranial palsies. Chief of these signs is the fact of an erratic, sometimes a bizarre, distribution in the paralysis, due to the fact that, as a rule, there are more lesions than one. Fugacious preliminary palsies or paraesthesiae, coming and going for days or weeks before a final culmination, are also highly suggestive. A well-known selective affinity on the part of syphilis for certain regions and tissues can also be utilized with advantage. The ocular muscles, and especially those supplied by the third nerve, are so prone to syphilitic attack that a ptosis or strabismus, occurring suddenly in an adult, especially if preceded by headaches and insomnia, may be put down at once and quite safely as due to this cause. Localized tremors in the regions subsequently to be paralyzed are quite often observed. Finally, a general malaise with mental inertia, and sometimes a cachectic appearance, not explained by any condition of the kidney, liver, or other viscera, are of some significance in association with others of the symptoms mentioned.—*Medical Record*, May 14, 1904.

Alopecia Areata and Diseased Teeth.—To bring under discussion Jacquet's theory as to the casual relation between nervous irritation and alopecia areata, Dr. Mewborn, New York, presented before a recent meeting of the New York Dermatological Society a young woman of a slender, nervous type, a stenographer by occupation, who presented nothing special in her previous history except that she has always suffered a great deal from toothache. In November last she had an abscess develop in the right upper molar, for which the tooth was removed. She wears a gold crown on the left upper bicuspid and the left upper molar was badly decayed and caused much pain. The lower teeth have numerous fillings. She had been under a severe mental strain in preparing for a civil service examination and had worried considerably over the loss of a situation. About two months ago her mother drew her attention to a spot of alopecia over the left ear. Upon examining her head she found a corresponding patch over the right ear. There had been no burning or other sensations in the scalp previously. Upon examining the scalp a patch about one inch in diameter was found at the nape of the neck and another very small one at the vertex in addition to the other two mentioned.

Dr. Jackson said that if there were any casual relations between diseased teeth and alopecia areata, it was strange that alopecia was not more common considering the number of individuals having bad teeth.

Dr. Bronson said that since Jacquet's theories were first announced he had carefully examined the teeth in every case of alopecia areata with result, as it happens, of finding that in most of the cases the teeth were more or less affected. In one very extensive case, the teeth were in a particularly bad condition. After a dentist had attended to them, the hair in the course of a few months was restored; but a year or so later, the teeth remaining in fairly good condition, the alopecia recurred. He was not yet convinced of the correctness of Jacquet's etiology though he believed it entitled to further consideration.

Dr. Mewborn, closing the discussion, said that while the evidence as to the connection between diseased teeth, and other causes of severe irritation to branches of the cranial and cervical nerves, with alopecia areata was not convincing; nevertheless, it was gaining ground. The experiments of Jacquet and others in efforts at producing alopecia areata by inoculations, made from the scrapings of alopecia, had been uniformly negative. These experiments have all the more weight from the fact that some of the inoculations were made upon Jacquet himself, who must at least be considered susceptible, he having previously suffered from an alopecia areata of the beard.—(Reported in the *Journal of Cutaneous Diseases*, June, 1904.)

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Original Articles

TREATMENT OF THE INTESTINAL FISTULAS BY THE ELASTIC LIGATURE.*

THEODORE A. McGRAW,
Detroit.

I wish in this paper to discuss the treatment of the severer grades of false anus and intestinal fistula. That many cases of fistula will close spontaneously, or with comparatively slight operations, is known to every surgeon, but there are others frequently met with in which the repair of the injured bowel can be accomplished only by methods which are the most difficult and dangerous of all surgery. To meet these cases successfully, we must have a clear understanding of the pathological conditions with which they are associated.

Destructive ulcerations or gangrenous inflammations of the bowel arise from many causes; the most common are obstructions, from constrictions, volvulus or other causes, suppurative appendicitis, tubercular deposits, typhoid ulcerations and injuries of the abdomen. Whatever the primary cause, the resultant pathological conditions, due to the

severe inflammations that accompany all insults to the peritoneal cavity of a septic nature, are similar, and, indeed, if we except the tubercular cases, nearly identical. Septic infection, which appears early in all cases, is the determining factor. It follows, of necessity, upon the constriction, suppuration or ulceration which has destroyed a portion of the bowel. The greater or less severity of this infection will depend upon the defences which retard or hinder its spread on the peritoneum. Thus, the gangrene due to an incarcerated hernia will cause less damage than one caused by an internal constriction—the march of the infection being retarded by the constriction, which shuts the affected coil off from the abdominal cavity.

So, too, the ulceration and abscess due to appendicitis may be walled in by a barrier of organized lymph, or on the other hand, that failing to take place, may from the very beginning infect the whole peritoneal cavity.

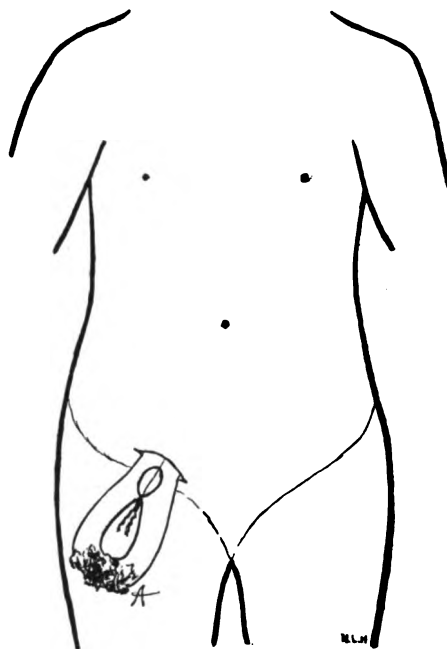
As a rule, those cases which from the beginning are accompanied by a gener-

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society, Grand Rapids, May 25, 1904, and approved for publication by the Committee on Publication of the Council.

infection, die early, and only those survive for further surgery in which the general infection has been delayed or altogether prevented. Even when the diseased coil has been walled in and separated from the general peritoneal cavity, there is a certain slow process of infection which creeps up the coil and causes inflammation of the gut above. This is due, in part, to the interference in the circulation of the blood in the affected area and partly to the spread of the disease by the continuity of structure. The wall of new structure may protect the peritoneal surface but can not prevent the spread of infection on the mucous surface or in the tissues which lie between the serous and mucous coats. For this reason, we find that in gangrenous hernias, in which the strangulating bowel has practically closed all connection between the peritoneums of the incarcerated coil and that of the gut above, the bowel within the abdomen, is much congested and often mottled in appearance. Many times, indeed, there are dark spots on its surface which indicate a possible circumscribed gangrene. This condition may exist for a considerable distance from the point of constriction, and the surgeon is often in doubt about the future of such cases.

Where the gut affected lies within the abdominal cavity, and the process is acute, we find, in the earliest stage, a congestion of the bowel with the exudation from its blood vessels of more or less serum. Especially in cases of obstruction will this congestion spread rapidly over all of the adjacent viscera. In typhoid and other ulcerative processes it may not become apparent until perforation has taken place. As soon as this occurs, or when in obstruction the disease reaches the stage of

beginning gangrene, the progress of the septic inflammation is marked by a frightful velocity, and if not relieved at once ends usually in a few hours in death.



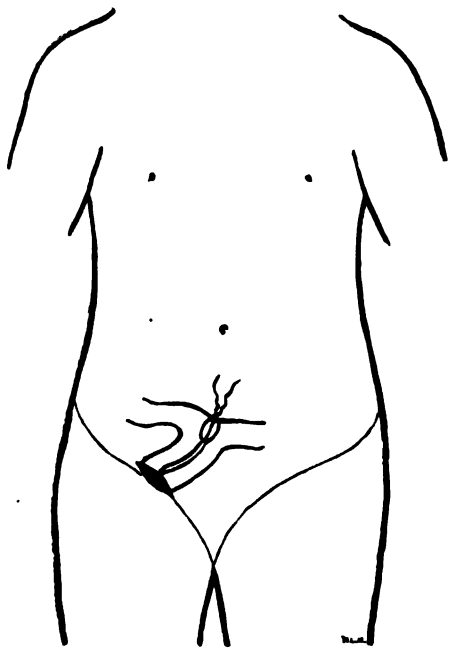
No. 1 Gangrenous Hernia.
A, portion that has sloughed.

When these cases are operated on early and the patient recovers from his condition of imminent danger, there remains a false anus of formidable character, through which there is a constant discharge of bowel contents. The gut, where it passes through the abdominal wall, becomes adherent and the abdomen closed. Within the abdomen the inflammation gradually subsides and disappears or, as not infrequently happens, assumes a chronic character. In either case, extensive adhesions occur, binding the viscera together and to the abdominal wall. The bowels become matted together and lose their freedom of motion and, in some cases, the efferent branch becomes obstructed or possibly obliterated at points below the fistula.

If the abdomen is opened for the purposes of repair, some months after the false anus has become established, the surgeon will be confronted with a mass of red intestines, whose peritoneal coat is hidden by granulations. The coils of bowel are widely adherent and very friable and efforts to detach them will frequently cause their rupture. At a later stage the redness may disappear, but the

limbs is a serious hindrance to end to end anastomosis.

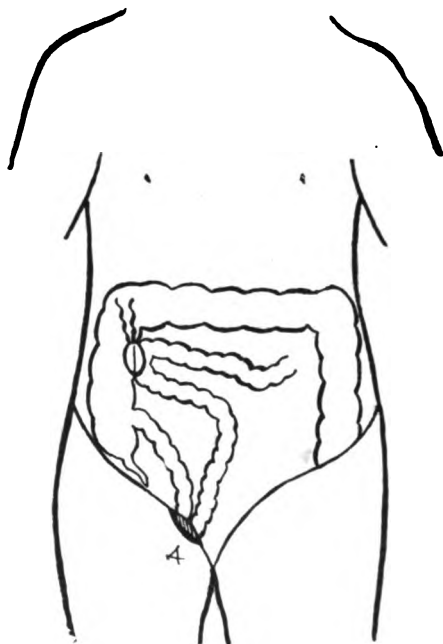
In this connection, it may be well to remark that the false anus, through which all of the bowel contents are discharged, has, in some respects, a widely different pathology from a fæcal fistula through which there is a leakage of only a small portion of those contents. In the latter case the passage of the fæces through the efferent branch serves to keep that portion of the bowel dilated, and thus prevents its contraction and atrophy. The two limbs of the bowel, being of nearly the same diameter, can be easily operated on by an end to end anastomosis, if resection should seem advisable. In the former case, the difference in the calibre of the two bowel sections and the uncertainty as to the patulous condition of the efferent



No. 2 The anastomosis made and the gangrenous portion of intestine removed. The ends are fastened in the wound.

adhesions become more firm, until finally the bowel walls become so blended together that it becomes impossible to distinguish one from the other or to separate them.

The friability of the gut wall will persist, even then, in the immediate neighborhood of the fistula. As time goes on the afferent limb of the bowel will retain its normal calibre but the efferent limb, from disuse, will become smaller in size and will undergo an atrophy of its walls. This difference in calibre between the two



No. 3 Shows anastomosis between ileum and colon. The fistula is at A.

portion, materially complicates the situation. It is not altogether uncommon in these disastrous inflammations to find more than one point of obstruction. It

would be evidently useless to unite the two limbs of the intestine if the distal limb were obstructed lower down by bands of organized lymph or by flexions.

Success in relieving these conditions must come, if at all, by a careful study of the obstacles which we have to contend with in each individual case. Let us see what these obstacles are and consider how we may overcome them by the most rational method. I will discuss, first, the simplest form, in which we meet with intestinal gangrene, that presented by the strangulated hernia. We have here an intestine which has been killed by a constriction which has occluded the blood vessels while, at the same time, it has prevented the passage of the contents of the affected coil, or of its surrounding sac, into the peritoneal cavity. It is simpler than an internal obstruction, because the worst products of the disease are confined outside of the abdomen. In such cases, if operative measures are postponed until gangrene has taken place, we will have almost always a patient who is nearly moribund from pain, shock and septic absorption. This condition, however, marks all cases in which extensive destruction of an intestine has occurred, from whatever cause.

It is a condition which warns the surgeon that he should do what is absolutely necessary, in as short a time and with as little violence as possible. When the hernial sac is opened and the fluids contained are evacuated, the bowel is found to be swollen and black. It may be so soft and disorganized as to rupture on slight traction. When the constricting band has been cut and the bowel drawn out of the abdominal cavity, that portion which has lain within the cavity will be found to be more or less mottled and discolored. In

very bad cases there may be on its surface black spots indicating an approaching gangrene. This discoloration may be limited to a few inches or may extend a foot or more up the intestine. When operating on such cases, the surgeon after opening the sac should disinfect, as thoroughly as possible, all of the diseased area before cutting the constricting tissues. After the stenosis has been relieved and the bowel drawn out, the very serious question arises as to the disposal of the gangrenous coil. The surgeon in deciding this, has to consider the general condition of the patient and the local condition of the gut. As the general condition is almost always very grave, the measures adopted should be such as take the least time and make the least demand on the patient's strength.

It is evident that a resection of the mortified bowel and end to end anastomosis, by any method whatever, although successfully practiced in a few cases, must, under these circumstances, be exceedingly hazardous. On the other hand, to content ourselves with the least dangerous method of treatment, that of fastening the bowel in the wound and permitting it to discharge through a false anus, is to look forward, in case of recovery, to still another dangerous operation for the relief of the injured bowel.

Some three years ago I proposed to obviate the necessity of a second operation by a simple method of procedure, to be carried out at once, before the bowel was fastened into the wound. It was simply to draw the bowel out of the wound until a portion was reached that was nearly normal in appearance, and then to make a lateral anastomosis between the two limbs with an elastic ligature. The idea was to provide a passage

for the contents of the bowel, and thus enable the false anus, no longer needed for the evacuation of the fæces, to heal. After the ligature had been applied, the bowel was to be disinfected and all that seemed in condition to recover pushed back into the peritoneal cavity. That part which was mortified, and that which appeared dangerously near mortification, was to be fastened outside of the abdomen, by stitching it to the abdominal wall. The immediate result of such a procedure, if the patient recovered, would be the relief of the distended bowel by means of the false anus and the gradual subsidence of internal congestion. When that had taken place and the ligature had cut through, it was hoped that the fistula would spontaneously heal or, should that fail to occur, could be made to heal by inverting the ends of the protruding bowel—a simple operation of little danger.

The only patient upon whom I have had an opportunity to try this method in recent hernia was too far gone to recover, and died a few hours after the operation.

This one is the only case, as far as I know, in which this operation has been done as a primary operation in hernia.

As a secondary operation it has been successfully performed by Dr. W. T. Henderson, of Mobile, Ala. Dr. Henderson's case, published in the *Mobile Medical and Surgical Journal*, November, 1903, was that of a negro, thirty-one years of age, upon whom he had operated for strangulated (right inguinal) hernia. On the ninth day after the operation, fourteen inches of the small intestine were discharged through the wound. At the expiration of the fifth week, the abdomen was opened at the outer border of the right rectus abdominal muscle and the

proximal limb of the ileum was united to the ascending colon by an elastic ligature. Up to this time no fæces had passed from the rectum since the hernia was operated on. On the fourth day after this second operation, fæcal matter began to pass from the rectum, and by a letter written about six weeks afterwards, I was informed that the false anus had very nearly closed, there remaining only a minute opening at its former seat.

As secondary operations for false anus, due to much more formidable internal constrictions and ulcerations, I have to report two cases, both due to the courtesy of Dr. J. B. Kennedy, of Detroit:

G—— G——, age 35 years, was admitted to Grace Hospital August 10, 1903. He had been ill during three weeks with typhoid fever and had had a severe diarrhœa during the last week, Aug. 6th.

On admission, his abdomen was found much distended and very tender. The pulse was 122; the temperature, by axilla, 97° F. Respiration 21. Surface of body cold and clammy; patient in collapse. Diagnosis was made of perforating typhoid ulcer. On August 11th the abdomen was opened in right iliac region. A large quantity of thin fæcal matter and pus escaped, and upon examination of the ileum, seven distinct perforations were discovered near the cæcum. No attempt was made to close the perforations but rubber drains were inserted and the abdominal wound left entirely open. He remained at the hospital until Oct. 5th, 1903, at which time all of the perforations had closed except one about the size of a silver quarter dollar, located about three inches from the cæcum. The patient, at this time, had gained much strength, but refused his consent to an

operation for the closure of the fistula. On October 5th he was removed to the Wayne County poor house.

It was not until January, 1904, that he consented to an operation for the closure of the false anus. On January 3d I found him much emaciated and very weak. There was a large opening in the right iliac region through which there was a constant discharge of fæces. I operated on him with the assistance of Dr. J. B. Kennedy, Dr. John J. Marker and Dr. James.

A longitudinal incision was made through the outer edge of the right rectus muscle. The intestines were found matted together and very red. The afferent limb of the ileum was located and drawn as far up as the strong adhesions would allow. It was united to the ascending colon with an elastic ligature after the usual method. This part of the operation was rendered very difficult by the immobility of the bowel and the necessity, caused thereby, of working below the abdominal surface. In passing the ligature, an accident occurred, which probably will never occur again, and which may have been responsible for the subsequent death of the patient.

I used the McLean needle, in which the rubber is secured by a ferrule, which passed over the needle and ligature. After the rubber cord had been tied, it was noticed that the ferrule had escaped from the needle and, on searching, it was found lying on the rubber cord, between the ileum and colon. After the needle had passed through the ileum, the ferrule, which was a little too large, had slipped up on to the rubber and had not followed the needle through the colon. The question now arose whether it were better to withdraw the ligature and insert a fresh

one or to surround the ferrule with Lembert stitches and leave it in situ. Fearing, in the friable condition of the bowel, lest I should rupture it by further manipulation, I decided upon closing it in and leaving it undisturbed, hoping that it would pass into the bowel and thus escape.

A rubber drain was inserted and the wound closed around it. On January 7th, the fourth day after the operation, fæces began to pass from the rectum and continued to do so until he died, on January 26th. A day or two later, a small amount of thin fæces was noticed discharging from the wound, and this, too, persisted at intervals during the rest of his life.

He eventually died of exhaustion, on January 26th, nineteen days after the operation.

In the postmortem examination, at which I was not present, the bowels were found inextricably matted together. The ferrule, with the attached rubber, was in the peritoneal cavity.

I think that this patient would have recovered, had it not been for the accident with the ferrule, which prevented the perfect union at the point of anastomosis, which is the normal result of the ligature operation. As it was, the fæcal discharge through the wound was slight, and that through the false anus had nearly altogether ceased before he succumbed.

From the fourth day after the operation he had regular fæcal discharges from the rectum.

The second case was, in many respects, peculiar:

J—— S——, a Polish boy of fourteen years, was brought into the Solvay Hospital at Delray on January 31st, 1904, with symptoms of appendicitis. He had

had several previous attacks but none so severe as this one. He was operated on by Dr. J. B. Kennedy on February 2nd, who found the appendix immediately on opening the abdomen, and removed it. It was adherent to the neighboring structures but not suppurating. The wound was closed and healed, but the boy did not recover from his pain or bloating. This continued, with obstinate constipation, and finally fecal vomiting, until February 7th, when I was called to see him.

I found him in great pain and with abdomen enormously distended. His pulse was 130 but his temperature only one degree above normal. On Dr. Kennedy's invitation, I re-opened the wound for the purpose of examining into the condition of the bowel.

I had hardly opened the peritoneum when a great gush of feces indicated a rupture of the bowel. On drawing the cæcum and lower part of the ileum out of the abdomen, I found, two inches above the ileo cæcal valve, a firm stricture of the ileum, which had nearly closed the gut. It was just above this that the rupture occurred when the adhesion gave way which bound the bowel to the abdominal wall. The gut above the stricture was enormously dilated and much discolored.

After evacuating the feces and cleansing the abdomen, I connected the ileum at a point ten inches above the ileo-cæcal valve with the ascending colon by a rubber ligature and fastened the ruptured end in the wound.

The boy at first did well and on February 11th, the fourth day after the operation, had a good fecal movement through the rectum. From this time until his death, Feb. 15th, the feces ceased to pass

through the false anus and were discharged per rectum. He, however, continued to be bloated, to suffer pain and vomit, and finally died of exhaustion. At the autopsy there was found a perfect anastomosis, but in the ileum, twenty inches above the ileo-cæcal valve and ten inches above the seat of anastomosis, there was found a constriction and above the constriction an opening through which feces had recently been discharged. I was myself not present at the abduction but judge from the description obtained that the constriction at this point did not completely close the gut but produced, nevertheless, sufficient disturbance to cause thinning and rupture of the tissues above.

In severe inflammations of the bowels, with false anus, the possibility of stricture in the efferent portion of the bowel must always be inquired into before operating, as failure would be assured before hand if the afferent were united to the efferent branch at any point above such a constriction in the distal limb. In this case, death occurred from a partial stenosis and eventual perforation of the bowel, in the afferent limb, ten inches above the anastomosis. The question arises in such cases, whether one ought rather to accept the chance of the existence of such a condition, as I did, and close the operation as soon as possible, or, on the other hand, waste valuable time and strength while informing one's self of the state of the bowels above and below the point of operation.

The question whether a stricture exists in the efferent branch of a false anus should always be decided by injecting in it large quantities of colored water or other material, whose passage from the rectum would prove the patulous condi-

tion of the bowel. When the false anus involves the upper part of the small bowel, nutriment should be injected into the distal limb while preparing the patient for the operation.

The two cases which I have reported, though both fatal, one from a prevent-

able, the other from a non-preventable cause, were both successful in opening the passage between the afferent and efferent bowel, and in obviating the passage of fæces through the false anus. In both cases the false anus had begun to heal before death cut the matter short.

THE INFLUENCE OF BREAST FEEDING ON THE INFANT'S DEVELOPMENT.*

HENRY DWIGHT CHAPIN,
New York City.

Clinical results the world over have demonstrated that the milk of the healthy mother is the best food for the infant up to the normal time for weaning. It is the natural food for infants and this fact alone should cause us to believe that a superior or even an equally good food can not be produced artificially.

The milks of the lower animals contain the same food elements as breast milk, viz.: fats, proteids, carbohydrates, mineral matter and water, but in different proportions. Investigation has shown that the composition of milks of different species of animals is closely related to the rapidity with which the young grow, a milk high in proteid being intended for a quick growing animal, as might be expected. The milk of any species has uniform characteristics and is kept by nature within certain narrow limits of variation; this fact has been demonstrated by many experiments on cows. It occurred to some dairymen that feeding fat to cows might increase the amount of butter fat in the milk, and as high as two pounds of tallow a day were fed to

healthy cows, but the increase of fat in the milk was hardly perceptible. Attempts at feeding proteid into milk have not been successful and the most competent dairy students have come to the conclusion that it is beyond the power of man to alter the character or composition of cow's milk, except by disturbing the cow's nervous equilibrium or digestion, or by underfeeding. When normal feeding and nervous conditions are restored the milk resumes its normal character. This is exactly what we find in treating nursing mothers; if they are worn out and nervous we try to improve their general condition; we order easily digested food, look after the state of the bowels and have the mother sleep away from the child where she may rest and not be disturbed; if the mother is overeating we cut down her diet and order exercise to the point of fatigue to insure complete metabolism of the food. In a few words, we try to bring about a normal condition of the body and nature does the rest; we do not alter the composition of milk, increasing or decreasing one or all of the ingredients at will, as we sometimes think we do when we successfully treat a nursing

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mother, but bring about the secretion of the milk that is normal to that mother. What is normal for one woman may be abnormal for another, just as much as rich Jersey milk would be unnatural in a scrub cow of no dairy qualities; but leaving out extremes, the milk of any species has a fairly fixed type of composition which shows the nutritive requirements of the young of that species.

In artificial infant feeding little difficulty is experienced on the part of the infant in digesting and assimilating as much fat and carbohydrates as are found in breast milk, but great disturbance is often the result when as much proteid as is found in mother's milk is given. A favorite method of overcoming this disturbance has been to reduce the amount of proteid in the food to one-third to one-half of that in human milk. When it is remembered that the blood, brain, heart, liver, lungs, kidneys and muscles—in fact the working portions of the body—are built up from the proteid of the food, the tremendous advantage that the infant which is assimilating good breast milk has over the bottle fed baby, that may be assimilating not more than one-half as much vital-tissue building food (proteid) will be at once appreciated.

Poor nutrition paves the way for sickness. The breast fed infant is not as susceptible to disease as the artificially fed baby, and when attacked, recovers more promptly, as it has more vitality and reserve force. Condensed milk babies proverbially succumb to almost any serious illness, and when the small amount of proteid in highly diluted condensed milk is considered, it is surprising that any other result could be expected, as the infant has in this food little from which a strong vigorous body

can be constructed. Too much attention has been paid in the past to gain in weight and too little to the character of the flesh. Many experiments have shown that of two animals of the same weight one may be a little dwarf enclosed in a mass of dropsical, fatty tissue, while the other may be a giant in comparison, when the amount of blood, and size and strength of all the vital organs is determined in both. This difference is due to feeding too little proteid to the dwarfed animal.

From a nutritive standpoint alone the breast fed infant has a great advantage over the bottle baby, but it has other things greatly in its favor also; mother's milk is more than food, as we think of food for adults; it is a food that adapts itself to the infant's developing digestive tract. What form the mother's milk assumes after it reaches the stomach depends upon the state of development of the stomach; in the early stage of lactation, the secretion of the stomach is the rennet ferment which changes the casein of the milk into a soft, solid mass or curd which is not digestible by pepsin; the character of this mass or curd differs with the kind of milk. When the stomach secretes hydrochloric acid it combines with the curd and forms chloride of paracasein, a compound much denser than rennet curd or paracasein; this compound of curd and acid is readily digested by pepsin, and gastric digestion commences. As fast as the secretion of acid and pepsin increases in quantity and strength, the mother's milk is ready to use it up, and we find as the child grows older and its stomach increases in size and becomes stronger, that it takes longer for it to empty and that the feeding intervals must be made greater. At birth the stomach digests little of the food and secretes lit-

the digestive juice, but mother's milk does not change in composition as lactation advances, except towards the time for weaning, when it may become poorer in solids; it is one of the wonderful things of nature that the mother's milk does not change as the infant grows older; nature does not have the YOUNG follow the mother's milk but has the milk ever ready to fit the developing digestive apparatus. If the stomach is backward in secretion of acid and pepsin, the milk remains soft and ready for intestinal digestion. Nature intends that the infant at weaning shall have a well developed and vigorous digestive apparatus and provides in the casein of milk a food substance that will insure this development. The caseins of milks differ with the species, and knowing the function of the casein and that the digestive apparatus shows great differences in the various species of mammals, it would be unreasonable to think that the milk of one species would adapt itself to the digestive tract of another.

The differences in milks are not so much nutritive as physiological ones, and a little thought will bring this fact home to any one. In the reproductive process in the simpler forms of life, the young are offshoots from the parent's body, from which they gradually separate, and when detached have all the attributes of the parent; never in nature do we see parents leaving their young until the young are able to secure food for themselves; if the necessary food is not all derived from the parent's body, suitable food is provided until the young is able to look out for itself. The various mammals are PHYSICALLY separated from the mother's body at different stages of development: PHYSIOLOGICALLY

none are separated from her body until they are fully formed and able to eat the same kind of food as she eats; PHYSICAL separation takes place at birth; PHYSIOLOGICAL separation at weaning.

From a physiological standpoint, an artificially fed baby is a premature child and anything but maternal milk is foreign to its digestive tract; chemical analyses of foods will not show all their defects or advantages; these are often brought to light only by a study of physiology and pathology. The reason so much difficulty is had in feeding cow's milk to infants, is that digestion in the calf is different from infantile digestion; cow's milk is physiologically adapted to a calf's stomach, human milk to the infant's stomach.

With our present knowledge, the principles of infant feeding become very simple. The food should contain as much nutriment as breast milk; it should be as digestible, and it should adapt itself to the developing digestive tract. Milk of some kind must be the foundation of food that is to be the regular diet, as its casein is the only form of proteid that will change its character with the change of digestive secretions. As the stomachs of mammals differ, so their milk differ, and there can be no scientific infant feeding unless this fact is kept in mind.

When we go beyond the chemical composition of human milk and cow's milk and look at how they are affected by the digestive juices, we see at once that their differences are more than quantitative ones and the supposed difference in reaction. Adding alkalis to cow's milk does not change it into breast milk—neutralize the alkali and the properties of the cow's milk return—nor does adding acid to mother's milk make it resemble cow's

milk. We now know that adding lime water or other alkalis to cow's milk prevents the stomach secretions acting on the casein and forming compounds that require gastric digestion. Heating cow's milk also alters it so that it is less easily acted upon by the rennet ferment of the stomach and softer curds are thus formed. In all our attempts at making a substitute for maternal milk we have been groping along in the dark trying to explain our clinical observations by the supposed chemical differences of human and cow's milk. With the great flood of light that recent research on milk has turned on this subject, we are able to see how well established facts and observations have been misinterpreted. Hammersten, who did so much work on milk, really discovered what has recently led to clearing up many of the perplexing problems of milk chemistry, but the conceptions of the chemistry of proteids and acids in his time were such that he failed to recognize that he had made a great discovery. By an irony of fate it was left for two Americans (Van Slyke and Hart) thirty-seven years later, to solve the problem of what changes take place, and what compounds are formed when cow's milk is acted on by rennet, acid and pepsin. Many of their results had been obtained by Hammersten, but his theories made him believe that the observed facts had no significance; what is really an establishment of a knowledge of the processes of digestion of milk in young animals was thus made to wait many years.

The well nourished breast fed child has its food supplied in proper quantities, in forms which are assimilated to the best advantage, and that so adapt themselves to the growing digestive tract that full development is insured. The haphazard

fed bottle baby often receives food deficient in material from which healthy organs and tissues can be constructed; the form of the food when of sufficient nutritive value is often such that no functional development is produced, or such that it causes constant irritation and lays the foundation for chronic indigestion and malnutrition. The breast fed child begins life for itself well developed and fitted for the struggle for existence, while the artificially fed baby at the same age may be anæmic, dwarfed, and have its organs under sized and perverted in their functions. Careful feeding from the start may lessen the danger of such results but we must realize that it exists. We can not appreciate the influence that breast feeding has on the development and future of a child until we understand that many of the common disorders of bottle fed infants are the ultimate result of the lack of mother's milk. Human milk, like many other things, is not truly appreciated until it is missed. The place milk holds in the animal economy is well worth careful consideration; at this time it is only possible to touch on the subject, but in a series of articles published recently the writer attempted to show what an important part of the development of some animals takes place while at the mammary glands and how their secretion changes to meet new conditions in the young. The essential scope of these articles was to emphasize the biological aspect of infant feeding.

When the doctors, the nurses and the mothers come to realize that Nature did not intend a child to take anything but breast milk as food until its digestive tract was completely formed, and that maternal milk helps in the formation of a strong and vigorous stomach, there will

be less trouble with artificial feeding, as careful feeding will commence at once and the start will be made with a fairly well child and not with one that is suffering from a perversion of the digestive apparatus. The mothers will be taught

that a food that "agrees" is not necessarily the proper one for continued use and that the change to something else may have a useful purpose and that in the art of feeding there are other problems than mere gain in weight to be considered.

COW'S MILK FOR INFANT FEEDING.*

AUGUSTUS CAILLÉ

New York City.

The various problems in infant feeding are a perennial subject for discussion. The main difficulty lies in the dietetic management of bottle-fed children. Breast-fed children do not invariably thrive, but their management does not present the difficulties which we encounter in the other class of cases.

Our principal aim has been to take the composition of mother's milk as a standard, and to adjust cow's milk in accordance with this standard, cow's milk being the most available substitute for mother's milk which we have.

Modification of cow's milk is accomplished by reducing the proportion of proteids by dilution; by increasing the quantity of fat originally sufficient but made insufficient in amount by the necessary dilution; by increasing the sugar and salt made insufficient in amount by the necessary dilution.

The manipulations necessary to modify or adapt cow's milk for infants can be carried out in the household or in milk laboratories. The introduction of percentage feeding has placed infant dietetics on a scientific basis and has given us milk laboratories, but success in in-

fant feeding is not a matter of accurate percentages—as the general practitioner has erroneously inferred. Milk food ordered by prescription according to the percentage method and supplied by the laboratory has given me very excellent results, but I have obtained the same gratifying results by home modifications by simple dilutions, in which the principle of percentage feeding is carried out in a crude and simple way.

For various reasons modifications of cow's milk, whether done in the household or in the laboratory, will not give uniform good results in difficult feeding cases, no matter how accurate we are in our manipulation of percentages. The chemistry of digestion is very complex, and the alimentary canal is not a test tube. The behavior of food in an infected intestine, or feeble organism, is often difficult to understand, and thus our best efforts will have their limitations. Success in feeding will not come to us with mathematical certainty. Minute differences in the composition of the proteids of cow's milk as compared to human milk have a theoretical but no practical interest. Suggestions for modifying cow's milk which take into consideration the minute differences in chemical composi-

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tion, are thrown to the winds. We *cannot* convert cow's milk into mother's milk, no matter how scientific we are. We are obliged to use cow's milk as nature furnishes it and *without proper hygienic* management neither home nor laboratory modification of cow's milk will fit the baby with a capricious digestion. *With proper hygienic management*, however, clean cow's milk, properly diluted or modified, will fit the vast majority of infants.

In the home modification of cow's milk, the greatest simplicity is desirable for all concerned. Simple dilution of top milk with water or farinaceous water will answer in the vast majority of cases, if the deficiency of sugar and salt is made up by adding these substances to the diluted top milk.

The following simple method of home modification has been practiced by the writer for the past twenty years:

If a quart bottle of average good milk stands four hours, the upper half of the milk will contain about twice as much fat as the milk before standing. This PINT of so-called top milk is decanted and forms the basis of bottle food for home modification.

By diluting this top milk in various proportions, viz: 1-1 1-2 1-3 1-4 1-5, we obtain a food of various strengths as regards fat and proteids.

The deficiency of salt and sugar is readily made up by the addition of these substances and a food can thus be prepared which will vary in composition according to the requirements of the child to be fed. The cost of a daily feeding with the best milk obtainable is about twenty cents per day.

When clean milk can be had, the milk may be given raw. In hot weather and with the average milk supply the food must be sterilized.

SCHEDULE OF HOME MODIFICATION OF COW'S MILK.

	No. 1 (1-4)	No. 2 (1-3)	No. 3 (1-2)	No. 4 (1-1)
Cane Sugar	2 ounces	1½ ounces	1¼ ounces	1 ounce
Table Salt	35 grains	30 grains	25 grains	20 grains
Diluent	26 ounces	24 ounces	20 ounces	15 ounces
Top milk	6 ounces	8 ounces	10 ounces	15 ounces

No. 1—For young infants (1 month) and difficult feeding cases. Feed one to two ounces every two hours (twice at night).

No. 2.—Adapted for young infants with good digestion or for infants 2-3 months old. Feed 2-3 oz. every two hours (twice at night).

No. 3—Adapted for infants from 4 to 8 months. Feed 4 to 6 oz. every 2½ to 3 hours, 8 feedings in 24 hours (once at night).

After the 8th month give 6 bottles and two feedings of cornstarch pap with egg, or mutton or beef broth with rice or sago, tapioca, pea soup.

No. 4—Rich milk adapted for children over one year old. Give 5 bottles 6 to 8 oz. each, and two additional feedings as above.

Fill the mixture into small nursing bottles, each to contain one feeding, and cork with a pledget of clean cotton and sterilize in warm water. Sterilized milk keeps without ice. Keep raw and pasteurized milk food on ice. Before feeding heat to body temperature by placing the bottle in hot water. Then remove cotton and feed by means of a rubber nipple.

This method of modifying cow's milk does away with the addition of separated cream and is a distinct advantage over the so-called cream mixture, because separated cream having a high market value, it is not invariably fresh, it has not a uniform composition and is very prone to spoil and give rise to dyspeptic diar-

rhoeas and symptoms of milk poisoning in general.

Cow's milk modified in the household according to this simple method will agree with the vast majority of infants. In a difficult feeding case it is best to stop feeding milk for a few days and begin again with a low strength modified milk and gradually work up. When we encounter a positive idiosyncrasy for cow's milk we may be compelled to make use of some other foods.

An idiosyncrasy for cow's milk in proper dilution should not be suspected *until after the children have had proper hygienic management to help them digest their milk.*

Infants and children who are kept in doors in cool and cold weather, and breathe the air of overheated and stuffy living apartments, will not digest well no matter what they feed on.

During the greater part of my active professional life, extending over 27 years, I have made it a practice to send infants out of doors from the time that they are six weeks old.

The insane fear of breathing cool fresh air is almost as pronounced to-day as it was in times before the advent of the germ theory of disease and is responsible for most of the indigestion among children. A move in the right direction as regards the hygienic management of infants and children has been started in Boston by some of the wealthy families in the Back Bay district, who put their babies to sleep in a box on the flat roof or on a balcony or window sill, summer and winter. The method is begun when the baby is two months old, and may be continued as long as the custom of having a daily nap is continued.

The baby is wrapped like an Indian papoose and strapped to the box or basket in such a way as to give freedom to feet and arms and yet make it impossible for the child to crawl out. The crib is shielded from the wind and direct sun rays by an awning overhead. If the outdoor treatment is carried out, drugs and digestive ferments and the peptonizing process, are hardly ever indicated.

To sum up I would say there are no universal rules for feeding cow's milk. What we must aim at is to individualize in each and every case, and not attempt to adopt one form of feeding to all cases and under all conditions. In order to make a success of infant feeding we must have some knowledge of the composition of food stuff and of its caloric value.

In a difficult feeding case cow's milk should be discontinued for a short time and cereal decoction and egg white, etc., substituted.

In resuming cow's milk we begin with a low strength and gradually work up to full strength milk and avoid overfeeding.

Digestion of cow's milk is best stimulated by carrying children out of doors, not by drugging.

Idiosyncrasy for cow's milk is managed by selecting some substitute food, if possible the breast of a wet nurse.

Cow's milk should be sterilized in warm weather. Infants will usually thrive on properly modified cow's milk up to 7 months. After the 7th or 8th month they are apt to become rachitic unless they receive beef or mutton broth, with cereals and egg in addition to cow's milk.

With proper hygienic management to stimulate the motor function of the gastro enteric tract, we may let the secretions take care of themselves.

MILK LABORATORIES.*

JOHN LOVETT MORSE,
Boston.

The first milk laboratory was established in Boston in 1891 by the Walker-Gordon Laboratory Company. Laboratories have since then been established in many other cities of the United States as well as in Canada and in London. The credit for the conception and development of the milk laboratory belongs entirely to Dr. T. M. Rotch of Boston. The laboratory of to-day is the result of his studies and untiring efforts for the advancement of the science of infant feeding. While Dr. Rotch has always been behind the laboratory medically and has done more than anyone else to develop the present system, it is only fair to say that he has not and never has had any financial interest in the Walker-Gordon Laboratory Company.

The object of the milk laboratory is twofold: First, to provide a clean, constant and reliable milk supply, and, second, to provide a place where combinations of milk may be accurately prepared under the best possible conditions according to physicians' prescriptions. The laboratory does not produce an "infants' food." Modified milk prepared at the laboratory, or as it is often called, "laboratory milk," should never be included in the same category as the various foods prepared by the manufacturing chemists. The laboratory merely fills physicians' prescriptions for modified milk. It sells no modifications without prescriptions. Its relation to the physician is the same as that of the pharmacy, neither more nor less. The laboratory has no theories as

to infant feeding. It has no opinions as to whether gravity cream or centrifugal cream is the better in the preparation of modified milk. It has no theories as to whether whey mixtures or cereal diluents should be used to diminish the size of the curds. It merely prepares any mixture designated by the physician. It will prepare it with gravity cream or centrifugal cream as he desires. It will give him a whey mixture or a mixture prepared with a cereal diluent as he orders. If required, it will even add one of the proprietary foods. It sends it out heated or unheated, as requested. This being the case, if modified milk prepared at the laboratory does not agree with the individual baby, the physician who ordered the milk should be blamed and not the laboratory.

The laboratory also sells milk and cream of definite fat percentages to be used in the home modification of milk.

The laboratory consists of two parts, the farm at which the milk is produced, and the laboratory proper in which the modifications are prepared. They are of essentially equal importance, the farm being, if anything, the more important of the two.

The farms are either owned or absolutely controlled by the Walker-Gordon Laboratory Company. Every effort is made, and, as a rule, made successfully, to produce a milk of constant composition, as free as possible from bacteria and suitable for infant feeding. In order to get a constant milk the cows are not put out to pasture but are fed entirely on special food, the rations being essentially the same throughout the year. They are not

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housed, however, except during inclement weather, being given exercise in paddocks. The breeds of cows are carefully chosen with reference to the suitability of their milk for infant feeding and also with regard to their natural disposition and digestion. Holsteins and Ayrshires have shown themselves most adaptable in these respects. They are, especially the Holsteins, of even temperament, of good digestion and not very liable to tuberculosis. Their milk contains a much larger proportion of stable fats and a much smaller proportion of the volatile glycerides than does that of Jerseys and Guernseys. An additional advantage in these breeds is that the fat corpuscles in the milk are much smaller than in that of Jerseys and that when the emulsion is broken down it is much more easily restored. The stables and other farm buildings at the farms owned by the Walker-Gordon Laboratory Company are built in accordance with the most modern theories; at the leased farms they are brought as near to them as is possible under the circumstances. The care of the cows and of the stables and the methods of obtaining and chilling the milk are the same in principle as those employed in all first-class dairies. They are, however, carried out more thoroughly and in greater detail than is usually the case. The success of these measures is shown by the low bacterial contents of the milk.

In the laboratory the various modifications of milk called for by the prescriptions are prepared under cleanly conditions by men trained for the purpose. Those who prepare the milk have nothing to do with the calculation of the proportions of the various ingredients to be used. They merely carry out the directions given them by the prescription clerks. These

clerks translate the directions of the physician into amounts of cream, milk, whey, barley water, and so on, as the case may be. The milk is then pasteurized or not, as ordered, and is ready for delivery. When the patient lives close by the milk is delivered in baskets. When it is to be carried or shipped to a distance it is packed in a special ice-box. When packed in this way milk can be sent considerable distances with a fair degree of safety, even in hot weather.

In ordering a modified milk from the laboratory, the physician does not have to calculate the amounts of cream, milk and other ingredients to be used in its preparation. He merely states the percentages of fat, sugar, proteids and lime water which he desires in the mixture, the number of feedings, the amount at each feeding, and if he wishes it heated, the temperature at which he wishes it done.

Milk laboratories have been subjected to much criticism, some of which has been just but most of which has been unjust. It has often been said that the price of laboratory milk is prohibitive except for the rich. Laboratory milk certainly is expensive, the average cost being about \$3.50 a week. This price does not seem at all exorbitant, however, when the expense of producing a pure milk, and of then modifying and delivering it, is taken into consideration. In order to put modified milk within the reach of those in very moderate circumstances, the laboratory has recently begun to sell unheated modified milk by the quart or pint at the rate of 20 cents a quart. This price is certainly not exorbitant or beyond the reach of anyone who has any right to have a baby.

It is self-evident, of course, that those who do not believe in modified milk for

infant feeding can have no use for the laboratory. This class is fortunately, however, gradually diminishing in number as the result of education and in response to the demands of a public which is rapidly increasing its knowledge of the proper methods of infant feeding. Much of the criticism has been from physicians who have failed to appreciate the purpose and the capabilities of the laboratory. They have apparently not understood that the laboratory does not produce any special food or that it requires any more intelligence to prescribe modified milk than it does to order people to use the various proprietary foods according to the directions on the can. They do not seem to have realized that the laboratory will put up anything which they order; that if, for example, they prefer a mixture prepared with gravity cream, the laboratory will prepare it with gravity cream, or that if they prefer mixtures prepared with cereal diluents, that the laboratory will put in cereal diluents. A certain number of physicians seem to have found the laboratory a convenient scapegoat for the failure of certain babies fed on laboratory milk prepared according to their own directions to do well. It has been much easier and more conducive to their self-respect to attribute the failures to the laboratory rather than to their own imperfect methods of prescribing, and to forget that the laboratory has merely done what they have ordered it to do. The laity is even more prone than the profession to take the laboratory as a scapegoat. They are inclined to exaggerate every mistake made by the laboratory and to minimize their own. It seems to me that as a class they have been decidedly unreasonable. They, as well as

many physicians, have demanded of the laboratory a perfection which they have not required or expected of themselves or others, and have not been willing to make due allowance for the mistakes made by the laboratory—for there can be no doubt that mistakes have been made and will continue to be made at the milk laboratory. Most of these mistakes are, moreover, avoidable, and due to carelessness of some sort or other. Mistakes are made in every business, however, no matter how much care is taken to prevent them. A certain number must be expected and due allowance made for them. I feel sure that the management of the laboratory intends to have the milk properly and carefully prepared and delivered, and that it makes every effort to attain this end. Unfortunately their employees are human and consequently, like other men, occasionally make mistakes. The milk laboratory and the percentage system of feeding should not, however, be condemned on this account. An occasional slip, even if avoidable, does not invalidate the system or destroy the value of the milk laboratory. If, instead of totally condemning the laboratory and withdrawing their support when mistakes are made, the physicians and the public would exercise a certain amount of charity and kindly but firmly call the attention of the management of the laboratory to them, a long step would be taken toward preventing their recurrence. It rests with the public, and especially with the physicians, to determine whether the milk laboratory is to be a success or not. If they give it proper support, encouragement and criticism, it will give them the service which they demand, otherwise it cannot.

SUBSTITUTE FEEDING DURING THE FIRST YEAR.*

THOMAS MORGAN ROTCH,
Boston.

It is difficult in a few words to give the true meaning and significance of substitute feeding. I shall therefore only attempt to state shortly some of the essential principles connected with it.

(1) In the first place we should remember that the question of substitute feeding is not one of choice but of necessity, that it represents in the great mass of cases failures of breast feeding, and therefore must really be considered as a life saving measure and one that is often forced upon us.

(2) In taking good human milk, as I think we may, as a standard we must admit that this standard food varies considerably in the percentage of its various elements. This impresses upon us that a system of substitute feeding should represent the possibility of variations and this results in the fact that all rational substitute feeding is practically a modification of some animal milk.

(3) That modifying a milk, and to avoid discussion we will take it for granted it is cow's milk that we are speaking of, simply means changing the percentages of its constituents or any combination of such percentages.

(4) From a pretty wide experience of many physicians who have made a special study of the infants' digestion, we are impressed with the belief that infants have varying digestive idiosyncrasies and that they therefore are not to be fed by routine methods or by rule of thumb but with reference to their individual diges-

tive capabilities, although of course general rules can be deduced from a large number of average cases. In this connection, also, it is to be noted that it is the experience of many who have made a careful study of changing the percentages of the different elements of the food that in certain cases often slight changes are productive of good or bad results.

(5) That in substitute feeding we have two questions to deal with; first, digestion; second, nutrition, and that it is wiser to deal first with the digestion and then gradually lead up to a food by which the nutrition is improved, and, in fact, to make these two factors of the problem correspond to each other as nearly as is possible in the individual case.

(6) That in substitute feeding it is the milk supply and the materials which we can obtain from it that must primarily be looked to for a successful substitute feeding. We must have a milk supply which is clean and bacteriologically safe, this latter not meaning that it should be absolutely sterile. Having obtained such a supply, the proper adaptation of the various percentages and combination of such percentages, from this pure, original milk, is of great use in preparing a substitute food, especially in the early months of life.

(7) There are of course many formulæ and many ways of obtaining desired percentages, but all must rest on the same basis, each physician adopting the one which seems the simplest and clearest to him. We must however, primarily remember that a variation of per-

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centages is most easily obtained by using for materials creams of different fat percentages, fat free milk, milk sugar and some substance to regulate the alkalinity, such as the addition of lime water. In this connection we should recognize the significance of using creams of known and varied percentages of fat. This is a necessity for the reason that with certain creams certain percentage combinations of the proteids cannot be obtained and we must therefore know with what creams we can obtain the percentage of fat or proteids indicated for the especial infant; for instance, the least total proteid that can be obtained from a 10 per cent cream when a 4 per cent fat is needed in a substitute feeding, is 1.34. In many instances this proteid would be too high for the proteid digestion of an individual case in which the proteid digestion is weak. In this case a cream of higher fat percentage, such as 16 per cent, is called for, as with a 16 per cent cream a proteid as low as 0.80 can be obtained. There are numerous instances illustrating this rule which could well be spoken of if time permitted. We should understand, however, that these are simple facts which are deduced from experience in feeding and that there is not much doubt that some infants have a weak fat digestion, others a weak sugar digestion, and others a weak proteid digestion, and that the individual infant thrives on various percentages of either fat, sugar or proteid, provided that the especial element in which its digestion is weak is of a low enough percentage to be within the limits of its individual digestion, while the other elements have a high enough percentage for nutrition. In carrying out these principles still further in connection with the proteids it should be understood that in

young babies in the early months and also at any age, where they are sick or where their proteid digestion is especially weak, that a difficult proteid digestion can be greatly aided by using what may be called the split proteids, that is certain percentages of whey proteids in combination with certain percentages of caseinogen. Table A is explanatory of what I mean in this connection.

TABLE A.

Prescriptions for modified milk may call for percentages of fats, sugar and proteids, in variations of 0.25 per cent. Any percentage of fats from 0.00 to 4.00 may be obtained in combination with any percentage of sugar from 4.00 to 7.00, and with any percentage of proteids from 0.25 to 8.50.

$$\frac{14 \times 1}{20} = 0.70$$

WHEY CREAM MIXTURES.

Any percentages of fats and sugar as given above may be obtained with the following combinations of whey proteids and caseinogen:

Whey proteids. Per cent.	Caseinogen. Per cent.
.25	.25
.50	.25
.75	.25
.90	.25
.90	.50
.90	.75
.75	.50
.90	.60
.90	1.00
.75	1.25

Note—If an alkalinity above 5 per cent. is desired in whey cream mixtures over 3 per cent. fat, the whey proteids cannot practically exceed 0.80 per cent.

The caseinogen is the especial part of the proteid which causes the most difficulty in digestion and yet we must bear in mind that it probably is more nourishing than the whey proteids.

(8) It is a matter of experience that we cannot in a substitute feeding start with the usual percentages of good human

milk, but that we are practically forced to start with much lower percentages. The reason for this has not yet been explained with entire satisfaction, but empirically we should begin, whether with premature infants or with infants born at term, with low percentages and gradually endeavor to increase the percentages up to those of the standard of good human milk. I have endeavored in Table B to show the various changes which in average cases are required for a substitute feeding.

TABLE B.

THEORETICAL BASIS FOR FEEDING A HEALTHY INFANT.

Age	Fat	Sugar	Pro- teids	Split. Whey	Pro-Case- teids inogen	Amount at each feeding in ozs.	c.c.	Intervals betw. feed- ings in hrs.	Number of feedings in 24 hours
Premature.	1.00	4.00	0.25	0.25	0.25	$\frac{1}{4}$ - $\frac{1}{2}$	8.75	1-1- $\frac{1}{2}$	24-18
At term	1.50	4.50	0.25	0.50	0.25		22.50		
End of 1st wk.	2.00	5.00	0.50	0.50	0.25	1	30	2	10
End of 2nd wk.	2.50	5.50	0.50	0.50	0.25	1- $\frac{1}{2}$	45	2	10
End of 3rd wk.	3.00	6.00	0.75	0.75	0.25	2	60	2	9
End of 4th wk.	3.50	6.50	1.00	0.75	0.50	2- $\frac{1}{2}$	75	2	8
End of 5th wk.	4.00	7.00	1.00	0.90	0.80	3	90	2- $\frac{1}{2}$	8
End of 6th wk.	4.00	7.00	1.25	0.90	0.75	3- $\frac{1}{2}$	105	2- $\frac{1}{2}$	7
End of 7th wk.	4.00	7.00	1.50	0.90	1.00	4	120	2- $\frac{1}{2}$	7
End of 8th wk.	4.00	7.00	1.50	0.75	1.25	4- $\frac{1}{2}$	135	2- $\frac{1}{2}$	6
End of 9 mo.	4.00	7.00	1.75			5- $\frac{1}{2}$	165	3	6
End of 10 mo.	4.00	7.00	2.00			6	180	3	6
End of 11 mo.	4.00	7.00	2.50			7	210	3	6
End of 12 mo.	4.00	7.00	3.00			8	240	3	6
End of 13 mo.	4.00	6.00	3.00			8	240	3	6
End of 14 mo.	4.00	5.00	3.00			10	300	3	5
End of 15 mo.	4.00	4.75	3.50			10	300	3	5

The data given above are simply a guide to the rules for feeding of the average healthy baby; they are only approximate and not intended to be followed in cases of difficult feeding without due consideration to the individual requirements.

This table also presupposes, as I have already stated, that the original milk supply is fresh, clean and bacteriologically safe. When such a supply cannot be obtained we must do as well as we can in the individual case with whatever milk

can be obtained. It should, however, be thoroughly understood that disaster usually follows the modification of impure, old or dirty milk; and again it should be understood that improper modification of a pure milk may also be disastrous. I have known premature babies and babies at term with sensitive digestions either for fat, sugar or proteid to be made seriously ill and sometimes die where the milk supply was pure and the modification was that of good standard milk, fat 4.00, sugar 7.00, proteids 1.00 or 2.00 per cent.

THE QUESTION OF CEREALS.

The question of the use of cereals during the first year of life is an interesting one and one which has for many years been either advocated or opposed by those who have studied the subject of substitute feeding. Dr. Henry Shaw, of Albany, has contributed lately (January, 1904) some excellent work on starch digestion in infancy and his results confirm what has been known for some time, that the saliva of even very young infants contains a diastatic enzyme capable of converting small amounts of starch into maltose. This amylolytic function of the infant gradually increases as the infant grows older and seems to be well developed by the end of the first year. The small amount of starch which is digested in the early months is probably of little value, from a nutritive point of view, and the principal function of cereals at this early period of life is that of an attenuant in modifying the caseinogen of cow's milk. It seems that as the standard human milk presents fewer failures in feeding than any other food, and contains no starch, it would be well to avoid using cereals if possible. Since the modification of the caseinogen can be reduced to 0.25 by using the split proteid, and at the

same time using a high whey proteid, the total proteid can be kept over 1.00, it would seem that this latter method of treating the proteids is more rational and more in accordance with natural physiological laws. It is possible, also, that, although the diastatic power starts at birth, it is not necessarily intended to be used as it is still an undeveloped function and is liable to be over taxed if used too early. The use of cereals should not only be instituted according to the age, but also according to the diastatic power of the individual infants, since there is no doubt that some infants seem to need and thrive on cereals much earlier than do others, just as some infants can digest and thrive on much larger percentages of the caseinogen of cow's milk at a much earlier period than can others. What, however, is of special importance in this question of starch, is that the physician should not only decide in the given case whether to give a cereal, but also to know what strength of cereal he is giving, so that the especial infant may receive the percentage of starch which is best for it as it does the percentage of fat, sugar and proteids. This I have long advocated, and Dr. Maynard Ladd is at present working out a system at the laboratory by which we can order any percentage of starch which we wish in combination with the other percentages of fat, sugar and proteids. While I have not found the use of the cereal solutions necessary or advisable in the early months of life, yet later when they become of value in certain cases and also in the final weaning from modified milk to whole milk, an exact system will, I believe, be a most valuable adjunct to our feeding.

Cereal solutions can be added in place of boiled water in any combination with-

out altering the percentage of the fat, sugar and proteids, and the percentage of starch thus added may be accurately determined if the percentage of the cereal solution is known; for instance, if fourteen ounces of a one per cent. solution of barley water is added in place of the boiled water to a twenty ounce mixture, the percentage of starch in the mixture is

$$\frac{14 \times 1}{20} = 0.70$$

SYMPTOMS.

In many cases it is not by any means a simple matter to decide which element of the food is at fault from the usual symptoms of gastro-enteric disturbance. Sometimes it may be one element and sometimes another, and yet the symptoms being very similar we cannot always determine which is responsible. It may be an over amount of one element or an improper combination of elements which may result in a failure to gain in weight, so that it is only by beginning at once in the more intractable cases with a low percentage of various elements and combining them in various ways that we can finally solve the problem.

PEPTONIZATION.

In certain cases, although in my experience rarely, peptonization, either partial or complete, of a modified milk may benefit the especial case. If however we diligently and intelligently carry out the essential principles underlying the adaptation of cow's milk to the infant, and the more familiar and experienced we become with the principles of percentage modification and feeding, the less frequently will we resort to peptonization.

ACCURATE WEIGHING.

Probably the most important aid which we have in adapting a substitute food to

the special infant is the knowledge obtained by constant and accurate weighing. The variations in weight, whether in gain or loss, are so significant in connection with the question of the infant's nutrition, that we are working as much in the dark when we do not have this aid to our treatment as when we are working with empirical formulæ instead of with known percentages. A steady gain almost always indicates that we are working on the right principles, while an arrest or loss in weight indicates the opposite. A valuable guide as to the weight development of an infant is to be had by keeping a record of the weight index. The significance and convenience of this standard of comparison has been presented to you at this meeting by Dr. Ladd. The weight index expresses the ratio between the weight of any infant to the weight of the average normal infant of the same age. Expressed in per cent it represents the weight development of an infant compared with the average healthy infant whose percentage development we may reckon as 100. The variations from the weight index at birth gives a more accurate idea of the progress of an infant in its weight development than can be obtained by noticing the number of ounces gained or lost. For a means of comparison with other infants, of different ages and stages of development, it is of obvious advantage to express the

weight development in definite percentages.

FAILURES.

We should always remember that in a large number of cases of feeding failures are pretty sure to occur, but we must also remember in judging of our results that these failures are not always due to the food. It is a mistake that is frequently made by the physician, as well as by the laity, always to attribute loss of weight and gastro-enteric disturbance to a fault in the character of the food, while in reality they may occur from faulty metabolism and from unknown causes connected with bacteriological infection of the intestinal tract, from inhalation poisoning, from undetected malformation of the gastro-enteric tract, from unhygienic surroundings and from many other conditions.

FINAL REMARKS.

Let me reiterate what I have said before: Infants cannot be fed by rule of thumb. We can only lay down the general principles governing the milk supply and subsequent modification of the milk, and finally its adaptation to the individual infant. Each infant may be studied by itself. The most successful feeder of infants will be the man who is thoroughly acquainted with the many resources in our modern methods of percentage feeding and who can appreciate the individual needs of the especial infant.

Occurrence of Lipase in the Urine.

Conclusions:

1. It is possible to show the presence of lipase in the urine and to roughly estimate the quantity present.
2. Very little, if any, lipase is present in normal urine.
3. Lipase appears in the urine after a variety of insults to the pancreas of dogs.
4. It was found in greatest amount as a re-

sult of experimental acute hemorrhagic pancreatitis.

5. It was also found over a period of from three to five days after obstruction of the pancreatic duct.

6. It is probable that severe pancreatic trauma may cause the appearance of lipase in the urine.

7. The above are the conditions in which fat necroses are most apt to occur in human pancreatic disease.—(*The Journal of Medical Research*, May, 1904, A. W. HEWLETT).

DIFFICULT CASES OF FEEDING.*

L. EMMETT HOLT,
New York City.

In a ten minute paper very little in the way of detail is possible. We will therefore confine our discussion chiefly to the general principles involved. In the first place what do we include under the head of difficult cases of feeding? As popularly used this group comprises all infants that do not thrive readily with the usual care bestowed upon feeding cases. They are children who suffer more or less from chronic indigestion. The term "difficult" we see at once is a relative one. A mathematical problem may be difficult for one person and easy for another. So with a problem in feeding. We will all agree that the difficulties are few where the case is properly handled from the outset. How then are these difficulties created? Unlike poets, they are in most cases not *born* but *made*. They depend much less upon the condition of the individual child at birth than upon the way it has been handled afterwards.

There are several important ways in which these disturbances of digestion may come about. In the first place they may be due to bad nursing. This is true in a large number of cases and represents the experience of many modern mothers who strive hard for one or two months to nurse, but succeed only in producing a general disturbance of the child's organs of digestion.

The next large group of cases are those where the cause of the trouble is previous bad methods of feeding. The child may have been healthy at the start, but bad

advice or management is responsible for the want of success.

A third group, not the largest, but that perhaps which is the most unpromising and gives us the most trouble, are the cases in which the difficulty with the digestion is the result of some previous acute disease, either of the digestive organs, acute gastro-enteritis or ileo-colitis, or some other illness such as pneumonia or influenza. Before, things may have gone fairly well; but afterwards, so seriously deranged are the organs of digestion or so greatly is the child's general nutrition impaired, that progress is extremely difficult.

The above groups comprise the great proportion of the cases seen in practice, the remainder being children who are congenitally feeble or premature.

To determine exactly what are the difficulties to be overcome in any given case, is the first step in successful treatment. In other words, what is needed first is a diagnosis as to the precise nature of the indigestion which the case exhibits. To arrive at this, a full and complete history of the child's digestion from birth up to the time when it comes under observation should be obtained. At the first interview a physician should go most minutely into these details, as to the formula used, the methods of preparation, the quantity and frequency of the feeding, and the effect of each change of food upon the child's symptoms, in order to gain all possible advantage from previous experience. In no other way can we find out what particular phase of indigestion the child in

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hand presents. There is almost always a "screw loose" somewhere and the purpose of this investigation is to find out exactly where this is. We may often succeed best by doing exactly the opposite of what has previously been tried and failed. Where no history that is reliable can be obtained, a period of observation of several days or weeks may be necessary before a proper diagnosis can be made.

So far as symptoms are concerned, the cases may readily be divided into the gastric cases, those whose specialty is habitual vomiting or regurgitation of food and later mucus, and the intestinal cases, whose troubles are flatulence, colic, tympanites, constipation or diarrhoea, and after a time stools containing mucus. The two groups of symptoms may be combined in the same patient but generally one or the other predominates. With both we may have the same general symptoms of malnutrition—pallor, anæmia, poor circulation, fretfulness, irritability, loss of sleep and failure to gain weight. A third group of cases is seen where the children have no very marked symptoms of indigestion, but simply will not gain in weight. The stools often are large in proportion to the food taken, the appetite is sometimes poor, sometimes ravenous.

In the management of these cases it is important that the physician should study the case. There can be no success without careful thought and close observation. First, one should lay out some plan of treatment and then watch the patient. It is surprising how little real thought most physicians give to these cases of difficult feeding, but simply try in succession one thing after another in a haphazard way without any special reference to the indications presented by the child.

I have often been astonished to see how much more an intelligent nurse or mother could accomplish with only a book for a guide. Thus a patient out of town told me recently of an instance where a small baby had been in the hands of several physicians in succession and made no progress with any of them, when the mother and a friend bought a book upon infant feeding. They studied the child and studied the book and in the course of a few weeks had solved the problem of adjusting the food to the child's symptoms and the child gained steadily in weight. Most physicians do not realize how much attention these cases demand. Little can be accomplished by weekly visits. At first patients must be seen daily, the stools and weight observed, the mother or nurse questioned in order to find out what symptoms the child really has. It is almost indispensable that the physician have the coöperation in the house of some person who can faithfully and intelligently interpret the child's symptoms; he may be entirely misled by the mother or nurse, either through a prejudice against the food which is used or from their inability to judge the symptoms aright. It is surprising how often the difficulties disappear immediately when an intelligent nurse is put in charge of a patient.

In beginning the treatment of one of these cases it is important to attack the main symptom first, whether this is vomiting, colic or constipation, flatulence or diarrhoea and mucus stools. Our first aim should be to restore the digestive organs to something like a normal condition and until this has been accomplished, the child's weight must be ignored. It is well to explain to mothers in the beginning exactly what we are trying to do,

and why no permanent progress can be made until the digestion is right. It is important that the closest attention be given to details. It is not simply what is done, but how it is done, which determines success or failure. The innumerable ways which ignorant mothers and inexperienced nurses find of going wrong is simply beyond calculation, and our best efforts come to naught because of their mistakes.

Failure very often results because the physician is not sufficiently familiar with the subject to apply well-known principles to the case in point. Errors in milk formulas are made, not of fractions of a per cent. in calculating the fat or proteids, but often of two or three per cent.

Most of the problems in feeding are not insoluble ones. They are not in the last analysis really difficult, because the symptoms which comprise the difficulties vanish at once when the right thing is done. This is often the very simplest thing, showing that the difficulty after all is not with the child but with the doctor or nurse.

As an illustration let me cite the case of a private patient sent from North Carolina a few weeks ago to the Babies' Hospital, as a particularly difficult feeding case. The birth-weight was 9 pounds. The weight on admission when six months old was 7 lbs. 13 oz. The usual history was given that "everything" had been tried and everything had disagreed. For several weeks previously the food had been condensed milk, for the two weeks before admission malted milk. The child was hungry, constipated, losing weight and on examination showed typical symptoms of marasmus; six months old! 1 lb. 5 ounces less than at birth, and suffering almost constantly from

digestive symptoms since its advent. The outlook certainly was not promising. As in all cases of doubtful digestion, a simple milk mixture with low percentages was ordered as a test meal: fat 1, sugar 6, proteids .90; i.e., one part milk, three parts water, with sugar and lime water, and of this there was given three ounces q. 3h. This was increased gradually, in a week to fat 2, sugar 6, proteids 1.75, i.e., equal parts milk and water, with sugar and lime water. *Result:* In the first thirteen days, the child gained one pound; never had a symptom of indigestion, bowels moved regularly every day, normal smooth yellow passages.

The general rules for managing these cases may be summed up in a few words viz.: milk modifications for most patients. The number of feeding problems that cannot be solved by a properly modified milk are small. Vomiting babies as a rule present the greatest difficulties. In all such cases one should especially avoid formulas with high fats; food mixtures made up from plain milk do much better than top-milk or milk and cream mixtures. With vomiting babies also, the interval between feedings should be made three hours for the early months, and four hours for the later months of the first year. Smaller meals of a stronger food usually are better than larger meals of a weak food.

Peptonizing the milk is of considerable value and helps many cases.

Nearly all vomiting babies are made worse by high sugars, and hence symptoms are usually aggravated by the addition to milk of Mellin's or Eskay's food, malted or cereal milk, or by using these substances alone in place of milk.

Infants with intestinal symptoms present most frequently the combination of

colic, constipation and curds in the stools. Such patients are almost always relieved by lowering the proteids, usually by a greater dilution of the milk. In many such cases the most striking results are seen from whey and cream mixtures—where the proportion of lactalbumin is increased and that of the casein much reduced. This can be most easily done at the milk laboratory, but can with care be successfully accomplished at home. Infants with thin green stools and much gas require lower fats and lower sugars, precisely as to the vomiting cases.

Infants who simply will not gain in

weight, who are comfortable only when the food percentages are made very low, and who suffer from indigestion immediately when any percentages are raised, are best treated by wet nurses.

Finally, we must be sure that the trouble is not with the food but with the general hygiene of the child.

Time and patience are required for permanent results, for no miracles are wrought in these cases and quick results cannot be expected where symptoms have lasted several months; but with careful watching, success crowns our efforts in the majority of cases.

Blood Pressure in Surgical Diseases of Children.

Conclusions:

1. Ether causes a rapid rise in the blood pressure as indicated by the Riva-Rocci apparatus.
2. This rise is followed by a very much slower fall in the pressure.
3. Ordinary operative procedures seem sometimes to increase the pressure slightly.
4. With the establishment of shock the pressure is lowered but,
5. Other signs of shock, the more rapid pulse, the more feeble respiration, the cold, clammy skin, are noted earlier during operations than is a drop in blood pressure.
6. Conversely patients practically pulseless at the wrist can withstand operations.
7. Crying, vomiting, retching, struggling or changes in position affect the blood pressure so much more than operative procedures as often to render pressure charts practically valueless, unless all these circumstances are noted.—(*Boston Medical and Surgical Journal*, March 10, 1904, WILLIAM E. FAULKNER).

A New Method of Cardiac Examination.

—The pulse rate and the blood pressure are determined in a patient in a reclining position. Both iliacs are then compressed for a period of from 2½ to 5 minutes in the inguinal region and the

changes are noticed in the pulse rate and in the blood pressure. In a heart acting normally there is found an increase in the blood pressure of from 5 to 15 mm. of the column of mercury, while the pulse rate remains the same or is slightly diminished. With a hypertrophied heart, the blood pressure is raised from 15 to 40 mm., while the pulse remains the same or is increased. When a slight insufficiency exists, the pressure is 0 and the pulse the same or greater. A marked cardiac insufficiency is accompanied by a minus pressure and an increase in the pulse rate. This method is readily applied. The only possible unfavorable circumstance is the effect of physical excitement but this may be avoided with care.—(*Deutsche Medizinische Wochenschrift*, June 4, 1904, KATZENSTEIN).

Etiology of Affections of the Left Heart in Childhood.—The writer concludes from his researches that acute polyarticular rheumatism is the most frequent cause of acquired cardiopathies. In children endocarditis from rheumatism or other infections is more rare than in adults. The majority of cardiopathies in children, which are supposed to be acquired, are really the result of arrested or faulty embryonal development, exhibited before birth or in the first years of extrauterine life.—(*La Riforma Medica*, March 11, 1903, L. CONCETTI).

The Journal of the Michigan State Medical Society

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Editorial

THE GREAT PROMOTER OF MEDICAL ORGANIZATION—DR. N. S. DAVIS.

June 9th, 1817, and June 16th, 1904, mark the entrance and exit from human life of Dr. N. S. Davis. Every moment of this was spent in serious activity—an activity that at once promoted his own good and the good of others. He always regretted being denied a college training. Beginning the study of medicine at the age of 17, he graduated, after three courses of lectures, from the College of Physicians and Surgeons at Fairfield, N. Y. Indicating the bent of mind, his thesis contended that bodily heat arose from metabolic processes. Three years later the New York State Medical Society awarded him a prize for the "Best Analysis of the Discoveries on the Physiology of the Nervous System." Immediately after graduation he joined the Broome County Medical Society, and thenceforth till death, took an active part in the evolution of medical societies—medical organization. Eight years later he introduced into the New York State Medical Society the resolutions on which the American Medical Association was founded. In general he sought to follow the plan of our representative form of government. He was stimulated in this work by the professional practices of that day. He saw hordes of the ignorant,

vicious and indolent wrecking the profession he loved and set himself to the task of cleaning the Augean stables by organization. His keen eye was over all and his iron will largely dominated the American Medical Association.

From the village of Vienna, Oneida Co., N. Y., he moved to Binghamton, and thence to New York City, showing his fibre in this latter place by his fearless attention to the stricken during the terrible cholera epidemic.

At Binghamton we find him demonstrating anatomy on a cadaver to medical students. Later in New York City he was lecturer and demonstrator of anatomy in the College of Physicians and Surgeons. In 1848 he removed to Chicago and taught Physiology and Pathology in Rush Medical College. Later he was professor of practice of medicine. Later still he left Rush to aid in founding the Chicago Medical College on an advanced basis of greater system and higher requirements. Here he remained so long as able to work, and from this began a crusade against the standards which were lower than his.

True to his past record he started the Chicago Medical Society and the Illinois State Medical Society. Through work in these he sought to promote organization elsewhere.

In New York he was editor of *The Analyst*, in Chicago of *The Chicago Medical Journal*, *The Chicago Medical Examiner*, and *The Journal of the A. M. A.*

It is questionable whether the latter *Journal* could have been successfully established except for Dr. Davis. To its inception he gave his best thought, and for six years contributed time, energy, and money for its support.

He was active in organization and support of Chicago Academy of Science,

Chicago Historical Society, Illinois Microscopical Society, Home for Reformation of Inebriates, and the American Medical Temperance Association.

In all these and allied organizations he was an active factor, and little was done without his approval. By education, general and professional, made effective through organization, he sought the ceaseless growth of the profession towards its highest ideals.

Personally Dr. N. S. Davis was a pillar of strength to the weak, a hope to the discouraged, a stimulus to the indolent, an inspiration to the doubter. To all he has ministered of good by his lofty ideals, his unwavering faith, his undaunted courage, his indefatigable industry, his Puritanic personality.

AMERICAN ACADEMY OF MEDICINE—TWENTY-NINTH ANNUAL MEETING.

Because its work is unique, this body is little understood by the profession. Year after year, with no hope of reward except the pleasure of trying to add its mite in the evolution of the best possible medical profession, this band has continued its way. Never more than ninety have registered at its meetings, more often less than fifty, but enthusiasm, kindly fellowship and helpful endeavor are always present. As might have been expected, there have been difficulties of organization to overcome, but these too were part of its work.

Though limited in membership (limitations of general, professional, mental and moral equipment), its unceasing efforts are for the entire profession. It demands intelligent study in selecting, educating and organizing physicians. It

tries to do what it can to throw light on the problems involved. Rightly understood, it would have the practical support of every one who loved the medical profession. In fact this support, more manifest with passing years, will increase as individuals learn to care more for the profession and its work. Among the topics discussed were the necessity of exact knowledge of the composition of drugs and foods used by the physician, hygiene in the public schools, analysis of the laws in the various states, relation of physicians to dentists; some of these topics were considered by two or more papers and much discussion. Any physician having the training of an A. B. degree from a good literary college should apply for membership to the Secretary, Dr. Charles McIntire, of Easton, Pa., and join this band of workers in the field of "Medical Sociology."

PASTEUR'S INFLUENCE ON MEDICINE.

As an expert in physics and chemistry, Pasteur began those researches which revolutionized medicine. Thus observations on the polarization and facets of their crystals led him to discover that indifferent racemic acid crystalizes into equal quantities of ordinary dextrorotary tartaric acid and levorotary tartaric acid. Molecular constitution was shown to modify crystalline form, change the plane of polarization and so form the basis of the modern doctrine of the asymmetrical carbon atom that has cast such light on our ideas of the arrangements of the atoms within the molecules of organic substances.

These researches in the tartrates led Pasteur to recognize a series of optically

inactive compounds, including malic acid and amylic alcohol, and formed the bridge by which he laid the foundations of a new biological science which has completely changed our conceptions of medical problems.

He added fermenting albuminous material to pure crystallized ammonium paratartrate, and found that by the polariscope it rotated to the left. This result he ascribed to micro-organic life. He was soon called to a professorship in Lillie, a region of distilleries, and his students called for training in industrial chemistry, so that problems of fermentation were forced upon his attention. The ruling idea of this process was purely chemical as represented by Liebig. Pasteur determined to study the subject from the standpoint of living organisms as the cause of fermentation. The result was that he demonstrated the specific organism of lactic acid fermentation and utterly routed the chemical theory and gave birth to the new science of bacteriology.

His researches on fermentation enabled him to utterly rout the doctrine of spontaneous generation. Turning to the study of vinegar, he demonstrated the micro-organic nature of the vinegar film and placed acetic acid fermentation by the side of lactic and butyric acid, thus giving the vinegar manufacturers a scientific foundation.

His studies of the diseases of wine were even more helpful in that they showed that sour, bitter, and muddy wines depended upon the presence of definite ferments, which could be controlled by moderate heat. Hence the origin of heat as a sterilizing agent (Pasteurization). In 1865 Pasteur was directed by the Government to investigate the origin of the disease, which was ruining the silk industry of France. He proved that

there were two distinct diseases from which the silk worms died, viz. : corpuscle and a bacterial affection of intestinal origin. The former was due to the psorosperm and the latter to a specific bacterium. The corpuscle disease was eradicated by a careful system of breeding from eggs shown by microscopic examination to be free from infection, thus eliminating the chief source of the trouble.

The financial, and sociological benefits of this study are so large as to stagger the imagination, but far beyond is their value in opening the realm of animal pathology and modern medicine, as the corpuscle disease has striking analogies to some human diseases.

Because of hatred to the Germans, and love for France, he sought improvement of French brewing by the use of closed coolers and use of sterilized air for aerating the beerwort. The remainder of his life was devoted to, (1) the investigation of the relations of micro-organisms to the etiology of disease, (2) the experimental study of immunity to virulent micro-organisms.

Pasteur gave to biological science a definite method of permanently modifying the pathogenic characters of certain micro-organisms.

For many years Pasteur studied the protective action of attenuated virus, resulting in his finding an immunization of human beings bitten by rabid dogs, by repeated inoculations during the long period of incubation.

Pasteur's mistakes and shortcomings were many, as are those of every pioneer in an untrodden wilderness, but his example and his methods have enabled others to correct these, and the work still advances.

On his seventieth birthday he exhorted his students "to withstand unfruitful

skepticism; to live in the serene peace of their laboratories and libraries; to ask what they have done for their education or their country, so that they may have the consciousness of having contributed something to the progress and welfare of humanity, and be able to say as they neared the great goal, 'I have done what I could.' "

DEATH OF DR. FELIX FETTIG.

Dr. Felix Fettig was born in Baden Baden, Germany, May 17, 1834, and died at his home in Detroit, March 11, 1904. After leaving the public schools, he attended a preparatory school. He matriculated at the University of Heidelberg, and studied there about two years. Through misfortune he was obliged to leave before completing his course.

He came to this country in 1856 and served in the army of the North throughout the Civil War. During the last year and for a short time thereafter he was stationed at the Hospital at Harper's Ferry. From there he came to Detroit, and resumed the study of medicine at the Detroit College of Medicine, graduating on the twenty-eighth day of February, 1877. He settled in Detroit, and has been in active practice ever since. He was a member of the Schiller Lodge, F. & A. M., A. O. U. W., the Wayne County Medical Society and the Michigan State Medical Society.

BORAX AND BORIC ACID—THEIR USE IN FOOD.

Prof. Wiley, of the Agricultural Department, Washington, reports on a study of borax and boric acid taken regularly with food, by his famous "poison squad."

This squad is composed of twelve young men who volunteered to eat food treated with various chemicals under his direction, so that he could study the effects.

This investigation showed that even seven and one-half grains daily of boric acid or its equivalent in borax, if long continued, produce evil effects. Occasional doses had no ill effects, if small, upon the perfectly healthy. But in the sick, the young, and debilitated the reverse must be considered. If such preservatives are continued, it must be on the ground that the poisons from the decomposing food would do more harm than the drugs. In any case, the careful study by Prof. Wiley places the matter upon a scientific basis—boric acid and its soda salt is a good medicine, but a bad food.

PRIVATE PRACTICE IN GERMANY.

Under this title the *London Lancet* reviews a novel by Schullern, dealing with a doctor's life among the middle and lower classes in Germany. As human nature is much the same everywhere, the picture thus drawn will find a wide sympathetic response. Extensive medical knowledge is treated with the technique of the skilled novelist. The hero sets out on his career full of faith in humanity and enthusiasm for his work. One by one his hopes and aspirations are squelched by the meanness and selfishness of those with whom he is brought into contact, until in despair he renounces his profession and seeks consolation as a tiller of the soil. Such absence of delicacy, gratitude or even honesty as displayed by Dr. Hellman's patients might seem exaggerated, were they not seen in other countries.

County Society News.

BAY COUNTY.

At the regular meeting of the Bay County Medical Society, June 13, 1904, at Bay City, William Bishop read a paper entitled, "Personal Conclusions Based Upon Two Hundred Operative Cases of Appendicitis."

Abstract:

I. Symptoms—Each case presents some combination of the following symptoms:

(1) Pain—At first general over the whole of abdomen or referred to the epigastrium. It soon localizes itself to the appendicular region.

(2) Tenderness—This was present in all of the writer's cases.

(3) Rigidity of right rectus abdominis muscle. This is often to be found.

(4) Vomiting may or may not be present.

(5) Constipation usually found.

(6) Temperature ranged between 97° to 104¼° F.

(7) Pulse ranged between 65 to 160 beats per minute.

(8) Tympany may or may not be present.

(9) Chill may occur.

(10) Tumor may be palpable in certain cases.

II. Indication for operation:

Whenever we find persistent localized tenderness over the appendix, this is in itself an absolute indication for operative procedures, having in view the removal of the vermiform appendix.

III. The time to operate:

"I am going to operate upon my cases of appendicitis as soon as I see them first, last and always."

A. W. HERRICK, Sec'y.

GENESEE COUNTY.

DEAR DOCTOR:—The following is the report of the committee appointed at the January meeting to investigate the matter of a uniform fee-bill and to devise a plan whereby the impositions of the "dead beat" may be abated. Please give the report careful consideration as some action will be taken at the next meeting which will be held at Fenton and Long Lake, July 26. The committee of arrangements has planned some pleasant social features in which the ladies will be invited to participate.

Respectfully yours,

H. R. NILES, Sec'y.

Mr. President.—The committee to which was referred the matter of establishing a fee-bill for this Society and also a "dead-beat" list, having carefully considered the two subjects, respectfully report as follows:

First, taking the "dead-beat" list—We do not think it advisable to formulate such a list, because while it would be beneficial if well cared for, from all that your committee can gather concerning similar lists here and in other places, we believe it would surely prove a failure.

The fee-bill, we believe, would be proper and helpful if adopted. Neither a maximum nor a minimum list alone is considered sufficient nor is it thought advisable to bind the members of this Society to follow such a schedule invariably, because they cannot and would not do so.

But a list with a fair amount of leeway in its prices, to which to refer at times, would aid materially in fixing upon a charge, and when questions arise concerning the propriety of a charge made, a fee-bill backed by the Society would be a valuable aid. To those who have only recently begun work in this county it would be especially of use.

Therefore your committee has formulated the following schedule of fees for medical services, basing it upon the prevailing prices in this region and recommend that it be adopted by the Society.

J. G. R. MANWARING,

Chairman.

GENERAL PRACTICE.

First visit, prescription, and advice.....\$1 to \$3.
Each subsequent visit to same patient.... 1 to 2.
Visit with treatment or dressing..... 1 to 3.
Night visit between 10 p. m. and 7 a m \$1.50 to 3.
Additional visit to patient in same family .50 to 1.
Visit and consultation 5. to 10.
Joint attendance after consultation..... 1. to 3.
Mileage in addition to visit, one way .50 per mile.
Visiting at night and prescribing..... 1. to 3.
Examination of insane person and certificate5. to 25.
Physical examination of chest..... 1. to 5.
Small pox and varioloid10.00 per visit.
Other contagious diseases.....1.50 to 3.
Services as medical experts.....25. to 50.
Attendance at coroner's inquest,(autopsy extra)5.

OFFICE PRACTICE.

Prescription and advice in ordinary case...50 to 1.
Examination and opinion 1. to 5.
Vaccination in office50 to 1.50.
Fitting truss in office.....2. to 5.
Gynecological treatments1. to 3.
Fitting pessaries2. to 5.

Gonorrheal cases, each attendance1. to 10.
 Syphilis cases1. to 10.

OBSTETRICAL WORK.

Ordinary deliveries10.
 Detention after six hours.....1. per hour.
 Instrumental deliveries and other difficult cases5. to 25. extra
 All visits made subsequently, after the first three, the same as for other cases.....1. to 3.
 Abortions and miscarriages10.
 Repairing lacerations at once, extra.....5. to 15.

SURGICAL PRACTICE.

Capital operations100. to 500.
 Secondary operations25. to 100.
 Amputations of a finger or toe.....
 Tapping abdomen
 Operation for fistula in ano.....5. to 50.
 Operation for cure of hydrocele.....
 Removal of tonsil
 Circumcision
 Opening deep seated abscesses.....
 Opening minor abscesses.....1. to 5.
 Tapping hydrocele1. to 5.
 Extraction of foreign bodies from pharynx 5 to 50
 Removal of polypi from nose or ear... 5. to 50.
 Plaster dressings and other fixed dressings 2. to 15.
 Reduction of hernia by taxis.....3. to 10.
 Extraction of foreign bodies from the eye,
 ear, nose, urethra, wounds1. to 25.
 Introduction of a catheter or bougie.....1. to 3.
 Post-mortem examination25. to 50.
 Dislocations of large joints.....25. to 50.
 Of other joints.....5. to 20.
 Reduction and first dressing of fractures of the femur and important open fractures of this and other bones25. to 50.
 Reduction and dressing of fractured bone of leg, arm or forearm10. to 50.
 Anaesthetics for the extraction of teeth..2. to 5.
 Anaesthetics for other surgical purposes.5. to 10.
 Attendance upon surgical cases, per visit.1. to 3.
 Medicines in all cases are extra.

ALL FEES ARE PAYABLE AT THE TIME THE SERVICES ARE GIVEN.

It shall be considered dishonorable for any member of this Society to attend families or individuals by the year, or to make any other bargain or arrangement the tendency of which will be to avoid the full purport and effect of the foregoing list of charges.

All bills will be considered due when the services are rendered and statements are to be presented and settlement requested at least twice a year. It is particularly recommended to mem-

bers of this Society that their bills be presented at the close of each year.

It shall be considered proper to make reductions to all persons in moderate circumstances.

In all cases it shall be the duty of the physician or surgeon who invites counsel or asks assistance in an operation, to notify the patient or his friends, at or before the consultation or operation, that the fee—mentioning the sum—is expected at the time the service is given; in case it shall not be so paid the attending physician shall, unless otherwise requested by the one called in, include the charge or charges in his own bill or send in both accounts together, and he shall account to the consultant for his proportion of the money paid on said account.

H. R. NILES, Sec'y.

SAGINAW COUNTY.

TREATMENT OF COMPOUND COM-MINUTED FRACTURES.

O. P. BARBER, SAGINAW.

Abstract:

1. The object of this paper is to lay before the medical profession a practical method of holding these broken bones and sloughing tissues in such a manner that they can be kept clean without the daily changing of the splints and dressings, made necessary by the constant discharge of pus.

2. The method employed is as follows: Allow for illustration that you have a compound comminuted fracture of the leg midway between the knee and ankle joints. Cut out from a sheet of heavy wrapping paper a pattern of the exact size of the uninjured leg, one that will wrap and enfold that limb from the upper third of the thigh down to and including the foot. Lay this pattern on and cut its duplicate from a roll of coarse-meshed sieving, made from galvanized iron-wire. Get the meshes a half inch or larger if you can. Soak or boil it in your carbolic acid solution. Line it with sterilized plain gauze after bending and fitting and trimming it to fit the injured limb. Before applying the wire gauze over the seat of fracture, place a thin layer of gauze, but at other points such as ankle, foot and knee, use more of the gauze, or in its place use cotton. Over this long stocking of coarse iron wire roll your plaster of Paris bandages everywhere except over the seat of the fracture. After putting on two or three layers of plaster bandage, lay on strips of half wound hoop wire, bending them outward

over the fracture and letting them extend up over the instep and leg to within two or three inches of the fracture. When they reach this point they should be bent out so as to curve out a reasonable distance and pass on up the leg to the end of the splint. Have three of these strips and incorporate them solidly in the plaster.

3. What does this method accomplish?

(a) This splint will hold the bone exactly where it is placed.

(b) You can get at every portion of the mangled tissue without disturbing bone, torn muscles, or cell-growth in the slightest degree.

(c) Perfect drainage is obtained through the meshes of the wire and the nozzle of an irrigator can be thrust through whenever needed and all the pus and debris can be washed away.

VAN BUREN COUNTY.

The Van Buren County Medical Society held its regular meeting at South Haven June 16th. S. C. Graves, of Grand Rapids, read a paper entitled, "The Bougie-Catheter in Retro-Catheterization."

Abstract:

Among the most distressing and incapacitating as well as perilous of surgical maladies, those due to infection of the urinary tract and, at the same time, associated with obstruction to the normal evacuation of urine, must of necessity take high rank. Prominent in this category are urethral rupture and stricture with all their attendant woes.

Etiology of stricture: This condition of affairs is quite generally brought about by trauma (rupture) or by inflammation (urethritis specifica).

When should retrocatheterization be performed?

1. In cases of urethral rupture, when there is a doubt as to the ability on the part of the operator to secure the proximal portion of the urethra, a high section should be made.

2. In cases of stricture where to gain entrance into the stricture reaches a magnitude greater than the danger to the patient of a high section in the hands of the operator, the section should be made.

3. It must be remembered that under the circumstances which obtain in cases suitable for this method of treatment, entrance per vias naturales for drainage and antiseptic flushings is out of the question.

4. It should never be attempted in the absence of ample justification as it is always a perilous proposition by reason of the danger to the patient of the probable absorption of toxins by the lymph vessels in the exposed areas of an incised cavum retzii.

5. It should be done without delay in the presence of factors calling for it.

Method:

1. Entrance must be made above pubes.

2. Edges of wound should be treated prior to opening of the bladder with zinc stearate.

3. Bladder is exposed. The urine is withdrawn by aspirator. Bladder (through needle) is washed repeatedly with warm, weak boracic acid or some other mild antiseptic solutions.

4. Bladder is incised and the internal urethral orifice is localized by passing the finger into the bladder.

5. A gum elastic catheter is entered and is easily pushed down to perineal wound.

6. End of bougie is cut down upon and the writer's "Coupler" drainage apparatus is inserted and sutured in position.

7. Bladder wound is closed with fine, plain cat gut for the mucosa and larger chromicized cat gut for the musculo-fibrous layer.

8. The abdominal wound, down to the vesical wall, should be provided with provisional sutures of worm-gut, tied loosely and packed. The same can be closed definitely in a few days or a week if the vesical sutures hold.

The bougie-catheter, I think, meets all the indications. It drains and at the same time maintains urethral patency, both of which features are quite necessary for the successful outcome of the case.

The writer reports two cases treated successfully in this manner.

N. A. WILLIAMS, Sec'y.

WAYNE COUNTY.

The Wayne County Medical Society held its last regular meeting ere the summer recess, May 30, 1904. The Society entertained at a banquet the American Pediatric Society. After the repast was finished a symposium on Infant Feeding was given by several of the visiting doctors.

C. G. Jennings, of Detroit, acted as toastmaster.

"The Influence of Breast Feeding on the Infant's Development, by Henry D. Chapin, of New York City. (See THE JOURNAL, August, 1904, page 334).

"Cow's Milk for Infant Feeding" by Augustus Caillé, of New York City. (See THE JOURNAL, August, 1904, page 338).

"The Milk Laboratory," by John L. Morse, of Boston. (See THE JOURNAL, August, 1904, page 341).

"Substitute Feeding During the First Year," by T. M. Rotch, of Boston. (See THE JOURNAL, August, 1904, page 344).

"Feeding in Difficult Cases During the First Year," by L. Emmett Holt, of New York City. (See THE JOURNAL, August, 1904, page 349).

Drs. Jacobi, of New York City; Douglas, of Detroit, and Northrup, of New York City, made a few remarks.

GUY L. CONNOR, Sec'y.

Miscellaneous.

NEWS ITEMS.

Dr. Stanley Hall says, "Excessive individualism insidiously instills the same aversion to 'brute maternity' as does luxury, overindulgence, or excessive devotion to society. Just as the man must fight the battles of competition, and be ready to lay down his life for his country, so woman needs a heroism of her own to face the pain, danger, and work of bearing and rearing children, and whatever lowers the tone of her body, nerves or morals so that she seeks to escape this function, merits the same kind of opprobrium which society meets out to exempts who cannot or will not fight to save their country in time of need."

The Des Moines (Iowa) post office posts the following: "Hereafter preference will be given clerks married and having large families."

Diphtheria mortality during the past twenty years in New York city has decreased sixty-five per cent by the use of antitoxic serum, but cancer has increased fifteen per cent. Acute respiratory diseases have increased a like amount, while disease of the kidneys and circulatory organs have increased forty per cent.

The Wayne County Medical Society, at Richmond, Ind., lately voted in favor of reporting every case of tuberculosis to the proper health officer.

Hereafter no consumptive may teach in the Indiana public schools. At present two hundred and fifty are so engaged.

Dr. Jay F. Schamberg says that from 1901 to 1903 inclusive, six hundred and fifty have died from small pox in Philadelphia, Pa. All might have been saved by vaccination.

The Neenah (Wis.) Board of Health affirms that kissing is dangerous, that it spreads contagious diseases, and asks the public to discontinue the custom for the public good.

It is said that one Detroit physician disinfects all his money ere he spends it. He practices preventative medicine.

The United States government has employed experts to determine the nature of claims that the Hot Springs, Ark., contain some radio-active substance.

It is estimated that over three hundred and fifty ounces of cocaine is sold to the dissolute class in Cincinnati each month.

Judge Davis, of Philadelphia, says that "any person who offers his services as a physician to treat diseases, deformities, and injuries by any means whatsoever, including electricity, clairvoyance, faith healing, etc., is practicing medicine and the doing this without a license is illegal." Sound judge is he.

All the great American medical weeklies published simultaneously the general addresses delivered at the late meeting of the American Medical Association. This is all right for those who suscribe to but one, but wearisome to such as subscribe for several or all.

Sir Henry Thompson, Bart., M. B., died at his London home April 18th, aged eighty-four. As a genito-urinary surgeon he was well and widely known, counting among his clientele, kings and emperors. He took great interest in topics of the day, and by articles and speeches did much to create public sentiment, on such subjects as moderate drinking, cremation, diet in relation to health and longevity. His novels had more than local interest. As a painter he was even more successful. As a host he was famous for his

eight courses, for eight people, at eight o'clock. Both company and food were carefully selected, so that during a quarter of a century the most famous figures of art, letters, science, politics, diplomacy and fashion were his guests. Sir Henry Thompson was a live part of his generation.

Roberts Bartholow died in Philadelphia May 10th, aged seventy-two. He was widely known for his skill as a practitioner, teacher, investigator and author.

Dr. James Henry Dunn was found dead in bed at the Southern Hotel, St. Louis, after reading a paper before the American Surgical Association the same day. In connection with the Minneapolis Hospitals and the chair of surgery at the University of Minnesota, he was celebrated for his excellent work.

The American Neurological Association will hold its next annual meeting at St. Louis, Mo., September 15, 16, 17, 1904.

The American Association of Obstetricians and Gynecologists will hold its annual meeting at St. Louis, Mo., September 13, 14, 15, 1904.

The American Electro-Therapeutic Association will hold its annual meeting at St. Louis, Mo., September 13, 14, 15, 1904.

The Association of Military Surgeons of the United States will hold its next annual meeting at St. Louis, Mo., October 10-15, 1904.

The Hawaiian Territorial Medical Society will hold its annual meeting at Honolulu, December 3, 1904.

The fourth Pan-American Medical Congress will meet in Panama, December, 1904.

The Wyoming State Medical Society will hold its annual meeting at Rawlins, September 13, 1904.

The Medical Society of the State of Pennsylvania will hold its annual meeting at Pittsburg, September 27, 28, 29, 1904.

The Colorado State Medical Society will hold its annual meeting at Denver, October 4, 5, 6, 1904.

The Idaho State Medical Association will hold its annual meeting at Lewiston, Oct. 6, 7, 1904.

The Vermont State Medical Society will hold its annual meeting at Rutland, October 13, 14, 1904.

The New York State Medical Association will hold its annual meeting in New York City, October 17, 18, 19, 20, 1904.

The Medical Society of Virginia will hold its annual meeting at Richmond, October 18, 19, 20, 21, 1904.

CHANGE IN MEMBERSHIP.

(May 15th to July 15th.)

NEW MEMBERS.

C. W. Ash, St. Clair, Mich.
O. S. Bailey, Lansing, Mich.
G. M. Cliffin, Adrian, Mich.
J. Foster, Lansing, Mich.
D. G. Lawton, Cheboygan, Mich.
L. J. Marshall, Adrian, Mich.
C. S. Maynard, Paw Paw, Mich.
E. Newcomb, Blissfield, Mich.
F. C. Penoyar, South Haven, Mich.
F. T. Roach, Mattawan, Mich.
F. R. Robson, Reading, Mich.
F. M. Stearns, Frontier, Mich.
A. E. Thompson, St. Clair, Mich.
L. W. Toles, Lansing, Mich.
R. C. Traver, Somerset Center, Mich.
P. J. Woolsey, South Haven, Mich.

CHANGE OF ADDRESS.

F. A. Baldwin, St. Louis, Mo.
J. H. Burley, Almont, Mich.
J. H. Egbert, Dunnville, Ont.
W. Harper, Henderson, Mich.
T. P. Lyman, Superior, Wis.
R. M. Olin, St. Louis, Mo.
E. A. Romig, Newberg, Oregon.

DIED.

James Hosking, Kearsarge Mine, Mich.
R. Johnston, Milford, Mich.

BOOKS RECEIVED.

SYSTEM OF PRACTICAL SURGERY. By Prof. E. von Bergmann, M. D., Prof. P. von Bruns, M. D., and Prof. J. von Mikulicz, M. D., Vol. III. Translated and edited by William T. Bull, M. D. Lea Brothers & Co. Philadelphia and New York, 1904.

TRANSACTIONS OF THE AMERICAN ROENTGEN RAY SOCIETY. 1904.

TRANSACTIONS OF THE RHODE ISLAND MEDICAL SOCIETY. 1903.

Correspondence.

SECRETARY.—I am in receipt of your official notice that the State Medical Society has conferred upon me the position of an honorary member of its body. Permit me, through you, to thank them for this expression of confidence in me and endorsement of my course as a professional man. All through my professional life I have striven to do my duty at all times, in all places, to all men.

This expression of the feelings of the Society of which I have long been a member, comes to me, when tired and worn with professional services, with the fragrance of roses, and will be long treasured as one of the happiest episodes of my life. Please be the bearer of my thanks to the Society.

Very respectfully and fraternally,

SAMUEL P. DUFFIELD, M. D.

Dearborn, Mich., July 9, 1904.

SECRETARY.—You kindly informed me, under date of the 7th inst., that the Michigan State Medical Society has elected me to honorary membership. I value the compliment, and shall hold it as an honor.

Thanking you for your courtesy in the matter, I am, Very truly yours,

G. K. JOHNSON.

Grand Rapids, July 12, 1904.

SECRETARY.—Yours of the 7th inst. received informing me of my election to honorary membership in the State Medical Society. This honor I highly appreciate as coming from the goodwill of those with whom I have been in association since 1873 (when I became a member) in our life work.

HUGH MCCOLL, M. D.

Lapeer, July 8, 1904.

SECRETARY.—I have the honor to receive your notification of election as honorary member at last

annual meeting, and am indeed very grateful for the kindness of this election. I esteem the honor very highly, as one conferred by the Michigan State Medical Society.

Sincerely,

ALBERT BENJAMIN PRESCOTT.

Ann Arbor, July 11, 1904.

EDITOR.—In pursuance of the power and authority vested in this Board, it is hereby ordered:

That typhoid fever shall be a disease dangerous to the public health within the meaning of Section 12 of Act No. 10 of the Public Acts of 1895, as follows:

"Said board may by its rules or ordinances, cause any householder who knows that a person within his family is sick of smallpox, diphtheria, scarlet fever or ANY OTHER DISEASE DANGEROUS TO THE PUBLIC HEALTH, and every keeper of a hotel or lodging house who knows that a person within said hotel or lodging house is sick with any such disease, to immediately give notice to the Board of Health of said city, and upon the death or recovery and removal of such person, to cause the rooms occupied and the articles used by him to be disinfected in a manner approved by said Board, and they may by like rules and ordinances cause any physician who knows that a person whom he has called to visit is infected with smallpox, diphtheria, scarlet fever or ANY OTHER DISEASE DANGEROUS TO PUBLIC HEALTH, to immediately give notice thereof to the Board of Health."

DETROIT BOARD OF HEALTH.

EDITOR:—THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY treated in its last issue a subject of great interest, namely, "A Clearing House for Medical Supplies of Unknown Composition." This question is very similar to a matter which has for many weeks, prior to the meeting of the State Medical Society, engaged the continued and earnest attention of the medical profession all over the country and especially the zeal of the National Auxiliary Congressional and Legislative Committee of the American Medical Association. A very important measure, indeed, is pending before the Senate of the United States. Senator Hepburn's speech (April 6th, 1904) contains among other excellent remarks the following:

"The term 'drug' as used in this act shall include all medicines and preparations recognized in the United States Pharmacopœia for internal and external use.

"The definition ends there. We have added to that this provision:"

"Also any substance intended to be used in the cure, mitigation, or prevention of disease."

"Mr. President, the people who are nearest to the sick, who know most about this question, are the physicians of the country."

"I have here [exhibiting] petitions from practically all of the medical organizations of the United States and from practically every State in the Union; and if any Senator desires to know the sentiments of the physicians in his own State, I will take great pleasure in furnishing him with their sentiments as voiced in these petitions. They say in these petitions and in the letters which I have to present to the Senate that they can not with certainty any longer write a prescription with full confidence that it is going to have the results they desire attained. They say medicines are adulterated to such an extent that if they write a prescription which provides for a certain proportion or combination of drugs, because one of the drugs contains more or less of the substance which they seek to incorporate into the prescription than it should contain their prescription may have exactly the opposite effect from that which it was intended to have."

"I desire to say that I have within a day or two asked for a report from the Chemical Bureau of the Agricultural Department upon a number of patent medicines and various nostrums that are imported into the country, some of them from abroad, and some of them manufactured in one State in violation of the laws of that State and sent into another State for disposal. Out of fourteen samples analyzed yesterday thirteen were absolutely rank frauds, deleterious in their effects, containing nothing that could or would under any circumstances accomplish the cure of any disease."

"Ninety per cent. of those patent medicines are absolutely bogus and ineffective, so far as the purpose which they assume to serve is concerned; more than 50 per cent of them are deleterious to health and contain substances that no intelligent physician would allow to be taken into the human system, and the larger part of them are absolutely poisonous."

"Mr. President, that is the only controversy in regard to the drug trade, and there has been a strong effort directed against this provision by these patent-medicine men. If they are going to make the Pharmacopœia the standard so far as the drugs and the medicines that are mentioned

in it are concerned, then let us make provision for the determination of the safety and healthfulness of the drugs and the medicines that are not mentioned in it."

"Our mails should be closed against the transmission of these nostrums, which are advertised and which tempt the sick to experiment with them."

"There should be an amendment in the post-office appropriation bill, now pending before this body, that would require every medicine and every package of merchandise that passes through the mails to be stamped in plain letters as to its name, its contents, and the purpose for which it is intended. No package of patent medicine, no package of patent food, or no package under any pretense should pass through the mails of the United States without a fair exposition of the purpose and character of it. Then the department that has charge of the inspection of these things could, upon a mere glance, determine whether it was a proper matter."

"The question is one that affects the people in their daily home life. It affects their health, their happiness, and the safety of their lives. Without health the general principles of government count for but little. There is no enemy so dangerous as the one which attacks the health of the people or threatens their life through subtle means of deception and fraud in articles of daily food or daily necessities of life." Etc., etc.

"It might be suggested that physicians could confine themselves as much as possible to write prescriptions composed of well-known drugs."

The purpose of this communication is to call the attention of the medical profession of the State of Michigan to the efforts of the National Auxiliary Congressional and Legislative Committee of the American Medical Association in connection with the Pure Food and Drug Bill and to most earnestly ask the profession not to divide its strength. A very powerful opposition must be overcome. In all probability during the next session of Congress a strong appeal will be made to the medical profession to stand firmly together in an effort to accomplish a result which will surpass in its importance and far-reaching consequences almost everything which has ever been before the profession and before the public.

EMIL AMBERG,

Michigan Member National Legislative Council,
A. M. A.

Detroit, Mich., July 11, 1904.

Book Notices.

Under the charge of

RAY CONNOR.

MEDICAL DIAGNOSIS. SPECIAL DIAGNOSIS OF INTERNAL MEDICINE. A HANDBOOK FOR PHYSICIANS AND STUDENTS. By Dr. Wilhelm von Leube of Wurzburg. Translated by Julius L. Salinger, M.D. With five colored plates and seventy-four illustrations. Cloth \$5.00; Half Leather \$5.50. D. Appleton & Co., New York, 1904.

The general interest in physical diagnosis is indicated by the number of works which have recently appeared on that subject. The one before us is based on the author's sixth German edition and is a substantial addition to the English literature on the subject. The fact that it has run through so many editions in the German in the past dozen years is a solid proof of the regard in which it is held even in its own country.

General diagnosis is not considered and the author proceeds, after a brief introduction, to his task of special diagnosis. A general sketch is given of the routine of the examination of the patient at the bedside and a strong plea made for a thorough examination in every case. A working knowledge, both theoretical and practical, of the ordinary methods of examination is presumed on the part of the student. The book aims to aid in the interpretation of the data so collected in arriving at a rational diagnosis. As the author points out when the diagnosis is between two diseases, either one possible, the safe course is to consider the most common disease as the probable one. In this way many a "Fehl-diagnose" may be avoided. The great advantage of definitely committing one's self to a diagnosis before the autopsy is pointed out. Unless this is done in writing, it is only too easy to persuade one's self that while he may have been wrong in a minor detail or two, still he was right in the main and so an invaluable opportunity to learn slipped by unused.

The diagnosis of diseases of the heart is considered first and treated in a brief and comprehensive manner. The difficulty of making a diagnosis in many cases of acute endocarditis is frankly recognized and the physical signs are given as they may occur. The relative ease of making a diagnosis in the majority of chronic cases is pointed out. The diagnosis of the affections of the respiratory organs is then taken up and treated at rather more length. The various subjects are considered very systematically, and while the book is large, the subject matter has been as much condensed as possible and the relation of the signs to the pathological anatomy well shown as far as known. The various abdominal organs have been considered, each in

turn, including the digestive tract from mouth to anus.

Commensurate with the interest and importance of the subject, nearly one-third of the entire volume is given up to the diagnosis of diseases of the nervous system. The subject is covered very completely indeed, and is one of the most valuable portions of the work for reference. Much of the text here as throughout the book is in small type, rather too much indeed, as it is trying to the eyes and increases the difficulty of the reader, although it serves to keep the size of the book within bounds.

Under diseases of the muscles is considered the diagnosis of diseases of the blood and of metabolism. No technique is described for blood examination, but the section is preceded by a brief anatomico-physiological introduction and the chief blood diseases are then described and pictured. Under diseases of metabolism, diabetes mellitus is considered, although in another place the relationship of diseases of the pancreas to diabetes is noted. Diabetes insipidus and gout are also considered, together with other things under this head.

A consideration of the diagnosis of infectious diseases closes the book. For the sake of completeness, the translator has added brief articles on some of the rarer infections as "Yellow Fever," "Dengue," "Malta Fever," "Bubonic Plague," etc. The additions of the translator through the book, although minor ones, yet add their little to the value of the whole.

One is much impressed with the care and thoroughness as well as the wide learning with which the entire book is written. While the illustrations are by no means as profuse as in some of the American text-books, nevertheless the work will be found to be a store house of valuable information which is made very accessible by an excellent index. The mechanical features are well done and the book deserves to meet with the success which has been accorded it abroad.

TEXT-BOOK OF DISEASES OF THE EYE, FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Howard F. Hansell, A.M., M.D., and William M. Sweet, M.D., with Chapters by Christian R. Holmes, M.D., Casey A. Wood, M.D., and Wendell Reber, M.D. 582 pages. 258 illustrations. Cloth \$4.00 net. P. Blakiston's Son & Co., Philadelphia.

The number of works on ophthalmology has been so great in the past that one hardly sees the necessity for new text-books on the eye. The subject, however, is so difficult, of easy and com-

plete presentation that the ideal can hardly be said to be reached yet, and one can readily pardon the effort to make this subject less of a terra incognita to the student.

The work before us has been written for the student of ophthalmology whether graduate or otherwise. The aim has been to dwell chiefly on the practical side and to pass over more briefly the purely scientific and theoretical considerations. With this object in view they have condensed the section on refraction and said less than usual about those affections of the posterior segment of the ball which have not proved themselves amenable to treatment.

After a consideration of the examination of the patient and the general optical principles and refraction, the external diseases are taken up very fully. One chapter is devoted to diseases of the lids. Dr. Christian R. Holmes discusses the diseases of the lacrimal apparatus, orbit and cavities accessory to the orbit. The conjunctiva, sclera, cornea and uveal tract are then taken up in order and considered concisely. Under the chapter on the crystalline lens the various operations for cataract are given and the extraction of the lens in its capsule is mentioned, but no reference is made to the remarkable results the English surgeons have obtained recently in India with this method.

Glaucoma has a chapter to itself and injuries to the globe another. The diseases of the optic nerve and the anomalies of the external eye muscles have each separate chapters. Dr. Wendell Reber has contributed an excellent chapter on the pupil in health and disease, and Dr. Casey Wood one on ocular symptoms in general disease.

The work is based largely on the clinical experience of the authors and the material to be found in large and well known text-books. Any one looking for complete historical articles with full references to the literature, can find little here for their wants. The book is of value to a much wider circle than pure ophthalmologists as the clinical side is so strongly dwelt upon and the general practitioner must of necessity see many of these cases at least first. The method of describing the operations is very excellent as the several steps are often pictured in a very clear way. Thus any one glancing at Fig. 181 can see, without reading a word of text, that the authors are in the habit of using the right hand to make the corneal sections on the left eyes of their cataract patients.

The text is well written, clear, definite and concise, and the illustrations are for the most part excellent, those of clinical cases being especially good. The index is quite complete and adds to the value of the work. The mechanical features are good as a rule, although no effort has been made to reproduce the fundus in color.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden. Translated under the direction of Boardman Reed, M.D. Part I. Obesity. The Indications for Reduction Cures. Small 8vo., 60 pages. Cloth 50c. E. B. Treat & Co., New York, 1904.

The name of the author is sufficient to gain one's attention for this little treatise and its perusal is far from disappointing. It is the first of a series to appear simultaneously in Berlin and New York on the general subject of Metabolism and Nutrition. Obesity is first considered in otherwise healthy subjects and then as complicated by various other diseases which have to be considered in determining whether or not a reduction cure ought to be attempted. The work while eminently scientific is at the same time practical and full of suggestive thought.

The false conceptions which have grown up around obesity, as well as the dangers which in many cases accompany the attempts at reduction cures, are well set forth, as also are the scientific principles which should govern one in the treatment of individual cases. The technique of reduction cures is not gone into, as this subject has been reserved for a subsequent publication.

The style is clear and the book nicely gotten up. It is well worth reading and a place on our shelves.

THE SELF-CURE OF CONSUMPTION WITHOUT MEDICINE. by Charles H. Stanley Davis, M.D., Ph. D.; pp. 176. Cloth 75c net. E. B. Treat & Co., New York City, 1904.

The title of this book is a little deceptive. The author does not claim that a medical man is unnecessary for the self-cure. In fact there is no disease where the advice of the wise physician can do more for his patient. It appeals, however, to the laity as well as the profession, and contains many practical and helpful facts as to the treatment of this great plague.

The use of drugs is considered in some detail and the fact pointed out that no specific has as yet been discovered, despite the claims of many, both within the profession and without. In combating the symptoms, drugs have their place and must often be used, but too frequently the advantage gained is more than offset by the deranged digestive system. The other methods of treatment are then taken up, such as open-air, proper breathing, diet, exercise, climate, etc.

The book is simply written, and while giving certain disputed points as proven, such as the transmission of animal tuberculosis to man, is in the main sound. A chapter is given on the Prevention of Consumption and other Diseases. The index is incomplete and adds little to the usefulness of the work.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Meralgia Paresthetica.—This name was given by Roth to a peculiar syndrome appearing most commonly, through not exclusively, in the distribution of the external cutaneous femoral nerve. Musser and Sailer describe this condition as a "disturbance of sensation on the external surface of the thigh, characterized by various forms of paresthesia, associated with dissociation and more or less diminution of sensation. Another definition would be to call it an alteration of sensation on the outer aspect of the thigh characterized by pain, dissociation, anesthesia, and paresthesia.

Etiology.—This is obscure. There are three factors that appear to bear a close relation to the production of this disease; these are infections, traumatisms and intoxications.

Pathology.—This is a mooted question. Some authors place this disease among the neuralgias, others among the neuritides and still others claim that it should not be classed with either of these. Spiller believes many of the cases are allied to the pressure palsies. Musser and Sailer are of the opinion that it is probably a neurosis.

Treatment.—Strychnine sulphate grain 1/50, increased to 1/30, is given three times a day. The limb is massaged for 15 minutes each day, followed by wrapping the whole thigh in hot Turkish towels for ½ hour. At the end of a week a mild galvanic current (anode on the thigh, cathode on lumbar spine) is added to the above treatment. Counterirritation seems to be harmful. Above all rest for the limb is essential. Various other methods of treatment have been tried, as the dry faradic brush, the use of salicylic acid and resection of the nerve in obstinate cases.—(*The American Journal of the Medical Sciences*, July, 1904, J. E. DONLEY).

The Feeding and Care of Children.—Systematic examinations of all children under our charge should be undertaken at regular intervals, and should include the level of the shoulders and hips, the spine, eyes, ears and throat.

During the second year a child should be fed five times a day; the diet at the beginning should include only milk, gruel, and orange juice, to which later may be added an egg, soup, bread

and butter, and at the end of the year meat. Beef juice should be used only as a tonic.

During the third year but three meals should be given, with an extra bottle of milk at 10 a. m., the articles of food being continued with the addition of certain vegetables and simple desserts.

After the third year but three meals a day should be given, including the same articles of food and throughout childhood about one quart of milk should be taken daily and the evening meal should consist only of cereal and milk and bread and butter. Both the variety and the amount of food must be carefully restricted.

Children during the second year should sleep twelve hours at night and have a morning and afternoon nap each day, and throughout childhood should continue to sleep twelve hours at night with one nap during the day.

Provision for the exercise of children should be carefully planned—at first by the use of the nursery fence and baby jumper and later by systematic walks for short distances at a time, and later still by bicycling, horseback riding and tramps in the country.

Throughout childhood they should be kept as much as possible out of close and crowded rooms. When in the house the room should receive ventilation from out of doors and they should be kept in the absolute open air several hours each day.—(*Archives of Pediatrics*, June, 1904, R. G. FREEMAN).

Paralysis Agitans.—Its etiology is obscure. Syphilis plays an apparently unimportant part. The treatment is unsatisfactory. No cures were obtained out of 219 cases treated. An attempt was made to remove all source of anxiety. The patient was placed on a simple diet and an effort was made to improve the general nutrition of the case. The greatest improvement was obtained by the use of massage, passive movements and hydrotherapy. The use of hydrobromate of hyoscine and sulphate of duboisine diminished for a time at least the tremor and relieved the insomnia.—(*Journal of Nervous and Mental Diseases*, March, 1904, HART).

SURGERY.

Under the charge of

MAX BALLIN.

The Operative Treatment of the Hypertrophied Prostate.—The writer gives a most excellent review of the evolution of the operative treatment of prostatic hypertrophy, its present status and the choice of operative methods. He comes to the following conclusions:

1. We do not have a free choice of the method of the operation we are to do, in all cases, but are more or less compelled to select this method or that according to the conditions presented in the individual cases.

2. The most important single factor in determining whether a radical operation should or should not be performed is the condition of the renal activity. Beside this, one has to consider the general strength or feebleness of the patient, and his comfort or suffering.

3. The mortality of radical operations, were they applied early, would be trifling. The dangers arising from such operations are not nearly as great as those entailed by the use of the catheter.

4. Where there is nothing to prevent a free choice of method, the following holds true:

(a) The total removal of the gland by the best of the perineal technique is the operation of choice.

(b) When any condition is present which makes the perineal operation too difficult of performance, or where there is a contraindication of any sort to its application, the suprapubic operation is the operation of choice, and when contraindications are present which make this operation undesirable, the Bottini becomes the operation of choice. Finally, when the patient's condition is such as to make any of the above three methods inappropriate, and we are obliged to do something, we should do a palliative operation for drainage.

5. Cystoscopic examination should, when it can be readily done, precede operations of all sorts in which there is any doubt as to the exact nature of the hypertrophies. It is essential to the proper performance of the Bottini. Its utility with regard to the other operations is that of learning whether or not there is a present a middle lobe of such size and in such a position as to make the perineal operation especially difficult of performance.—(*Annals of Surgery*, June, 1904. F. S. WATSON).

Transplantation of Sartorius Muscle into a Defect in the Abdominal Wall.—Czish used the Sartorius Muscle for implantation into a muscular defect of the abdominal wall. The case was one of a large abdominal hernia, caused by sloughing of abdominal muscles and fascia, after a laparotomy. The muscle was cut 12 inches below the anterior-superior spine of the iliac-bone and freed up to within a distance of two inches from the spine. If cut this way the muscle is left connected with its nerves. The function of the leg was not noticeably affected by the operation; only a slight cutaneous anesthesia appeared in the territory provided by the nervus cutaneous femoris medius. This nerve perforates the Sartorius Muscle and therefore was injured in dissecting the muscle.

The result of the closing of the abdominal hernia was perfect and continued to be so during a year's observation.—(*Muenchener Medizinische Wochenschrift*, No. 19, 1904, J. F. CZISH).

Permanent Results of Operations for Malignant Tumors.—Kroenlein reports some very interesting results of operations for malignant growths. These results will prove valuable to those physicians who still doubt the benefit of surgical interference in cancers.

1. The first case is one of conservative myomectomy (enucleation of fibroids from the uterus). Operation was performed 15 years ago. The cure is complete.

2. The second is a case of nephrectomy for cancer of the kidney. Operation was performed 18 years 7 months ago, with no return of the cancer.

3. Another was a case of nephrectomy for cancer of the kidney. Four years 5 months have elapsed since operation. There is no return of the growth.

4. Nephrectomy was performed for a large polycystic tumor of the kidney. Five and a quarter years have elapsed since operation with no return of the trouble.

5. A primary cancer of the ulna (pavement cells—carcinoma) was operated on $6\frac{3}{4}$ years ago. The patient is to-day perfectly well.

6. The last case is one of excision of relapsed cancer of the larynx. Fourteen years have passed since operation with no return of the cancer.—(*Beiträge zur klinischen Chirurgie*. Vol. XLI, Part 1.

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Occipito-iliac Posterior Position.—Nature oftens needs but the slightest aid to correct occipito-iliac posterior positions. Voorhees discusses the management and treatment of these cases, advocating the keeping of the patient upon her feet, with short walks, out of doors, just before labor and about the room, during the first stage. Small doses of quinine and strychnine should be given for one or two weeks before confinement and during the first stage, as these drugs will greatly strengthen the labor pains.

In 90 per cent of the cases, spontaneous rotation will occur, but for this to take place certain conditions are necessary; the head must not be too large for the pelvis, the flexion must be adequate, the pelvic floor must be resistant and the pains must be strong. Weak pains constitute the most frequent cause for interference.

In case rotation does not occur and the head is high and movable and the pelvic measurements normal, as complete a dilatation of the cervix as possible, should be secured, after which the hand is introduced and the rotation produced by manipulation. This can usually be accomplished if the lower uterine segment is not contracted around the child. Deep anæsthesia is necessary.

When the rotation has been brought about, the forceps are applied to the sides of the head, an assistant meanwhile asserting strong pressure on the fundus.

If, after moderate traction, the head does not descend or if the pelvis is contracted, version should be done.

When the head is engaged in the superior strait or lies in the mid-pelvis, rotation may sometimes be produced by pushing upward on the forehead, the result of which is to increase the flexion and allow the occiput to come down low enough to meet the resistance of the perineum and so start rotation.—(*Medical News*, June 4, 1904.)

Bathing During Menstruation.—In a paper read at the recent meeting of the American Gynecological Association, Edgar discussed the subject of bathing during the menstrual period. This subject has been little discussed in the literature. Edgar's conclusions were as follows:

1. All forms of bathing during the period are largely a matter of habit and can usually be acquired by cautious and gentle progression; but not for every woman does this hold good, and surf bathing, where the body surface remains chilled for some time, should always be excepted.

2. A daily tepid sponge bath (85° to 92° F.) during the menstrual period is not only a harm-

less proceeding, but is demanded by the rules of hygiene.

3. In the majority of, if not all women, tepid sponge bathing after the establishment of the flow, namely, on the second or third day, is a perfectly safe practice.

4. Furthermore, in most women the habit of using the tepid shower or tub bath after the first day or two of the flow, can with safety be acquired.—(Abstract. *American Medicine*, June 25, 1904.)

When to Operate for Myoma Uteri.

When should a patient who has an uterine fibroid be referred by the practitioner to the specialist for operation? Pfannenstiel answers this question by summing up the indications for operation as follows:

1. Size. When a tumor reaches the size of an adult head in older patients, there should be no question of the propriety of an operation. When the tumor is nodular and growing it should be removed long before reaching this size.

2. Pain. Tumors producing pain should always be removed.

3. Hemorrhage. Those accompanied with bleeding should be removed.

4. Dysuria. Those which develop in such a manner as to press on the bladder or urethra should be operated upon.

5. A sub-serous tumor having a long pedicle which is liable to become twisted, should be removed.

6. Rapid growth. On account of the possibility of sarcoma or sarcomatous degeneration, all rapidly growing tumors should be early removed.

7. Tumors complicated by other grave symptoms, in so far as caused by the tumor, should be removed.

The week just previous to the menstrual period is the most favorable time for the operation. Different methods of operative procedure are fully discussed by the author.—(*Deut. Med. Wochenschrift*, March 31, 1904.)

Local Anaesthesia with Cocaine and Adrenalin.

Foisy counteracts the vaso-dilator effects of cocaine, when used for local anæsthesia, by mixing with the cocaine, adrenalin. He employs a 1 to 200 solution of cocaine and a 1 to 1000 solution of adrenalin. From 6 to 12 drops of the latter are added to 4 to 10 cubic centimeters of the former and of this mixture the maximum dose is 15 cubic centimeters.

Absolute dryness of the wound follows the use of this, but care must be taken that all vessels are carefully ligated, as otherwise post-operative hemorrhage may occur.—(*Cent. für Gyn.*, May 21, 1904.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Pertussis.—Hare states that every remedy is worthless as far as cure is concerned. Antipyrin given in doses of from 1 to 3 grains every five hours will nearly always decrease the number of the paroxysms, but not the severity of each attack. Solution of quinine 1 grain to 1 ounce of water, applied to the pharynx by means of a spray, is useful to allay symptoms as well as for a prophylactic measure. Tincture belladonna and nitrite of amyl have been employed with good results. Attacks may be modified by placing patient in a bronchitis tent or keeping the air of the living room moistened by steam.

Madison Taylor, of Philadelphia, recommends hot poultices over the posterior surface of the lungs. Relief is almost immediate. After an hour the poultice is removed and a stimulating preparation rubbed into the skin, after which a cotton jacket is applied. This method reduces the temperature, relieves congestion, and incidentally the pain, and secures rest.

From comparative studies in 752 cases, C. G. Kerley believes that antipyrin administered internally controls the paroxysms better than any other drug employed. Quinine if given in sufficiently large doses, had also a very good effect.

A number of remedies have been recommended for local application. Anders in two cases, cut short the disease by a hydrogen-peroxid gargle. In the catarrhal stage hydrogen-peroxid for rendering the naso-pharynx sterile and the administration of asafœtida or belladonna internally has been most efficient. Out of door life should be advised excepting on windy days. A spray of 1-40 carbolic solution may displace the peroxid of hydrogen solution if the latter cannot be tolerated. Since antitussin has produced such untoward effects as obstinate ulceration of the mucous membrane, it is not to be recommended.

Monti, of Norway, claims to have cut short the malady by a thorough disinfection of the room in which the patient lives by sulphurous acid. Everything with which the patient came in contact was fumigated for six hours. The room was well aired, the patient put to bed and covered with fresh linen. The following day the disease had disappeared.

Hlinske, of Bohemia, has had a large experience in the employment of formalin in the treatment of various catarrhs, and influenza, as well as whooping-cough. The only untoward symp-

toms noted with its use by placing the patient in a room with a lamp evaporating paraform tablets, were apparent paleness and loss of appetite and irritation of the eyes. He concludes that by the proper inhalation of formalin it is possible to destroy the germs of whooping-cough, and that thorough disinfection with formalin of the living rooms of the patient, succeeding inhalation, is sufficient treatment to frequently effect a cure.

The inhalation every two hours of a spray of a 1 per cent solution of salicylate of soda is recommended by Thompson.—(Critical Summary by Louis Spitz, *Therapeutic Review*, May, 1904.)

Formaldehyde Poisoning.—An estimated quantity of 2 or 3 ounces of a 40 per cent solution of formaldehyde was swallowed by the patient. The symptoms were as follows:

When first seen, a few minutes after swallowing the formaldehyde, the patient was tossing about in bed evidently suffering intense pain. Questions were not answered. The diagnosis was made by the odor of the breath and the history. Lachrymation was profuse, respiration noisy and labored, rate 30, with loud mucous râles from the greatly increased secretions in the nose, throat, and mouth. The pulse at first was strong, rate 112, but gradually weakened and became imperceptible. Cyanosis was marked. Unconsciousness soon intervened, lasting about ten minutes, from which the patient partially recovered. Deep cyanosis and widely dilated pupils preceded death. The patient lived about twenty minutes after first being seen. The examination thirty hours after death showed blood still fluid, dark brownish red in color. The stomach contained several hundred cubic centimeters of fluid, having a strong odor of formaldehyde. The mucosa of the lower part of the œsophagus, stomach, and first portion of the duodenum was dark chocolate brown in color, and of the consistency of leather. All organs and tissues in contact with the stomach were hardened in a similar manner to a depth of about one-third of an inch. The bronchi contained an excessive amount of mucous. The rational treatment is administration of a dilute ammonia solution followed by thorough washing of the stomach through a stomach tube.—(LEVISON, *Jour. A. M. A.*, June 4, 1904).

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

The Dangers of Allowing Warts and Moles to Remain Lest They Become Malignant.—To emphasize the danger of *not* removing warts and moles, and sometimes nevi, lest they should become malignant, Dr. Keen calls attention to 25 cases of such malignant degeneration and urges removal before a malignant change occurs. Many moles and warts are congenital; others arise later in life, either in childhood or adult life, and still others frequently appear in elderly people. (The ordinary, usually transitory warts of childhood are not considered.) All such growths are exposed to traumatism, such as blows, friction of the clothing, scratching on account of the itching, etc. In consequence of such injury or repeated and long continued irritation, or even without any assignable cause, they begin to increase in size. This sudden activity and increase in size usually do not occur for months or more likely years; it may be thirty or fifty or even more years after the mole or wart was first noticed. The moment they begin to increase in size they are, Dr. Keen believes, almost invariably already malignant growths and should be treated as such.

Some pathologists are disposed to maintain that many, if not most, of these are epitheliomata rather than sarcomata; others regard them as true sarcomata. Those which arise from warts proper, Dr. Keen believes, are generally epithelial carcinomata. In a number of cases that he reports, however, especially those arising from moles, the microscopic examination showed that they were unquestionably sarcomata; not infrequently their sarcomatous nature was emphasized by a general sarcomatosis; a multiple recurrence not observed in the epithelial carcinomata.

Dr. Keen believes that the treatment frequently advised both by surgeons and dermatologists is not radical enough and emphasizes the need of total excision before malignancy begins, *i. e.*, during the quiescent and apparently harmless stage, prior to the last "sign of activity;" and deprecates the use of caustics, especially in the pigmented mole.

Few regions of the body are exempt. Many moles and warts exist on parts of the body covered by the clothing, where the unsightliness of a scar needs raise no objection.

In the discussion which followed, Dr. A. D. Bevan, Chicago, calls attention to the possibility of danger of rapid general involvement apparently from infection of the wound in the operation itself, especially so in the removal of the melanotic sarcoma. He considers every pigmented mole histologically a malignant growth and it takes

but a little stimulation to change a clinical benign into a clinical malignant growth. At the earliest possible indication of any irritation he believes a mole should be destroyed with the Pacquelin cautery and then widely extirpated with the knife.—(W. W. KEEN, M. D., Philadelphia, *The Journal of the American Medical Association*, July 9, 1904.)

Reinfection of Syphilis.—If one could only find some means by which one could prove beyond doubt at any time that syphilis has been entirely eradicated from the organism of an individual heretofore infected with the same, the disease would at once be freed of its most offensive and oppressive feature. So far, the assurance that a patient was cured can be obtained only by the demonstration of a new infection, certainly a questionable advantage to him. Nevertheless, the proof of the actual occurrence of reinfection must be accepted as establishing the fact that syphilis can be entirely eliminated from the human organism.

Dr. Klotz then recites a case which he believes to be undoubtedly one of reinfection. Patient, male, born in 1847, German, furrier by trade, came first under his observation in 1882 for a large gummatous infiltration over middle portion of sternum, with several gummatous periosteal intumescences of right tibia, with no history, however, of primary or secondary symptoms. Early in December on both legs there appeared a number of small, slightly infiltrated, scaly patches. During November, 1883, tibia suddenly began to swell more rapidly, a circumscribed area became red, softened and broke down, with evacuation of a small piece of dead bone. Up to 1894 many other evidences of gummatous degeneration made their appearance, which were controlled by the regular mode of treatment.

Patient was not seen then for six years, when he appeared with a sore on the prepuce, following a blister which had developed about a week after exposure, the typical picture of a normal primary lesion of syphilis, with œdema of prepuce and subsequent enlargement of inguinal glands; followed by the usual train of cutaneous lesions and within six months with an attack of hemiplegia.

There is a wide difference of opinions on the question of the gravity of second infections of syphilis. Some authors, mostly those who report reinfections within a short interval after the first disease, report a very mild course as the usual one. Others observe a very severe attack.—(HERMANN G. KLOTZ, M. D., New York, *Journal of Cutaneous Diseases*, July, 1904.)

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APPENDICITIS (SUMMARY).*

A. J. OCHSNER,
Chicago.

1. The mortality in appendicitis results from the extension of infection from the appendix to the peritoneum, or from metastatic infection from the source.

2. This extension can be prevented by removing the appendix while the infectious material is still confined to this organ.

3. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines.

4. It is also accomplished by operation after the infectious material has extended beyond the appendix and before it has become circumscribed.

5. Peristalsis of the small intestines can be inhibited by prohibiting the use of every form of nourishment and cathartics by mouth and by employing gastric lavage in order to remove any food substances or mucus from the stomach.

6. The patient can be safely nourished during the necessary period of time by means of nutrient enemata. Large enemata should never be given for they may

cause the rupture of an abscess into the peritoneal cavity.

7. In case neither food nor cathartics are given from the beginning of the attack of acute appendicitis, and gastric lavage is employed, the mortality is reduced to an extremely low percentage.

8. In cases which have received some form of food and cathartics during the early portion of the attack, and are consequently suffering from a beginning diffuse peritonitis when they come under treatment, the mortality will still be less than 4 per cent., if peristalsis is inhibited by the use of gastric lavage and the absolute prohibition of all forms of nourishment and cathartics by mouth.

9. In this manner very dangerous cases of acute appendicitis may be changed into relatively harmless cases of chronic appendicitis.

10. In my personal experience no case of acute appendicitis has died in which absolutely no food of any kind and no cathartics were given by mouth from the beginning of the attack.

11. The mortality following operations for chronic appendicitis is exceedingly low.

*Read before the Michigan State Medical Society, at its annual meeting, Grand Rapids, May 26, 1904.

12. Were peristalsis inhibited in every case of acute appendicitis by the methods above stated, absolute prohibition of food and cathartics by mouth and use of gastric lavage, appendectomy during any portion of the attack could be accomplished with much greater ease to the operator and correspondingly greater safety to the patient.

I would make the following suggestions for the treatment of appendicitis with a view of reducing the mortality:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.

2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.

3. Aside from insuring a low mortality this will prevent all serious complications.

4. In all cases of acute appendicitis, without regard to the treatment contemplated, the administration of food and cathartics by mouth should be absolutely prohibited and large enemata should never be given.

5. In case of nausea or vomiting or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, conclusions four and five should always be employed until the patient's condition makes operative interference safe.

7. In case no operation is performed neither nourishment nor cathartics should be given by mouth until the patient has

been free from pain and otherwise normal for at least four days.

8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given and still later small sips of cold water. There is danger in giving water too freely and there is great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases suffering from acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution introduced slowly through a soft catheter, inserted into the rectum a distance of two to three inches.

12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

In employing rectal feeding it is important to follow a definite plan, which an experience with a very large number of cases has demonstrated, to give the best results with the least amount of annoyance to the patient.

It has been found that any one of a number of reliable liquid predigested foods in the market is much better than a mixture of milk and egg and various other foods which are frequently employed. The quantity should be small. Usually an ounce of predigested food, dissolved in three ounces of normal salt solution, is most readily borne by the patient. It is usually best to give this every four hours and if the patient is suffering from thirst, an enema of from eight to sixteen ounces of normal salt solution may be given half way between feeding until the thirst has subsided.

A soft rubber catheter, No. 8, English, should be attached to a funnel or to an ordinary one ounce glass syringe. It should then be thoroughly lubricated with oil or vaseline and inserted into the rectum not more than two to three inches. Then the food should be poured into this funnel or syringe and should be permitted to enter the rectum by its own weight. Many patients who are greatly disturbed if the food is forced into the rectum with a syringe can be fed by the method just described with perfect comfort. In case, however, the patient retains the nourishment temporarily, the rectal feeding is interrupted for twelve to twenty-four hours.

DISCUSSION.

W. T. Dodge, Big Rapids: I wish to express my appreciation of the work that is being done by Dr. Ochsner at the Augustana Hospital. I have had the pleasure of attending one of his clinics, and I can assure you that I know of no other place where so great a variety of surgical work can be seen done in one day, by one man. Dr. Ochsner is also to be congratulated upon the statistics that he has presented to you this evening. One thousand cases of appendicitis, all operated but seven, with 22 deaths, of whom seven were the unoperable cases, is a magnificent record—a magnificent

tribute to modern surgical achievement when done by competent hands and in ideal surroundings. With such statistics before us as the basis of the paper, it would seem presumptuous for any of us with lesser experience to offer criticisms of an adverse nature. But when we come to the bedside and examine a particular case we must be governed as to the recommendations we make by what our own fingers tell us, and by what we have seen ourselves, not by what some one has told us, and with that spirit—with the greatest respect for the opinions of the essayist—I will give you briefly my conclusions as the result of my personal experience, in so far as they may differ from the views of Dr. Ochsner.

In the first position that he assumes in regard to the operation before the infection has extended beyond the appendix, we are all agreed. There is no difference of opinion I believe anywhere among the profession upon that point. And also in regard to the operative procedure during the interval of attacks of appendicitis, there is no major surgical procedure that is so satisfactory, so free from danger, as the internal operation for appendicitis. But in the acute cases how may we know when the infection has extended beyond the appendix; how may we know what the nature of the infection is? It has been pointed out by some authorities that the danger in these cases depends very much upon the nature of the infective germ; that if the infection be due to the streptococcus, the danger is much greater than if it be due to the staphylococcus or the colon bacillus. I have, however, found as a result of my personal experience that there are periods in the course of acute appendicitis, when no pus has formed, in which an operation is exceedingly dangerous. Therefore, if I cannot get an opportunity to operate upon a case within the first 48 hours, and I believe that no general suppurative peritonitis has commenced, I defer the operation until the pus has formed and become walled in, or until the attack has subsided and an opportunity is given to operate in the interval, and with increased experience I find that I have been able to recognize the cases in which I thought an immediate operation was imperative; and I have no doubt that with the immense experience that has been had by Dr. Ochsner, his skill in that direction is very considerable. But when we come to these cases of suppurative general peritonitis, I confess that the views of the essayist give me a shock.

The cases of that kind that have come under my care have been ones in which the first symptom expressed by the patient occurred when an appendix that had evidently been diseased a long time, perforated; that diseased appendix had not produced any symptoms. They had become enormously thickened and ulcerative process had been going on, and finally it perforated, and when the perforation occurred the patient was taken violently ill with severe pain, with hard, tense, rigid, abdominal muscles, and an immediate diffusion of the suppurative process throughout the peritoneal cavity. It is very difficult for me to realize that it can be possible by any form of treatment to confine that inflammation or to secure adhesions when that form of inflammation has started and the only cases of that kind that I have seen recover have been those in which the operation was performed in the first 36 hours after these violent symptoms commenced. After 36 hours if I do not get an opportunity to operate such cases, I shall be most happy, hereafter, to follow the recommendations of Dr. Ochsner and give his method a trial, because I have never seen them get well with or without an operation, unless I operated within the first 36 hours.

I have been very much interested in this paper of Dr. Ochsner's for another reason: For several years I have received occasionally from the laity this message: "Why, in such a town they don't operate for appendicitis at all; they treat it by the starvation method;" and I am very glad to have this brilliant exposition to the Michigan State Medical Society of the real purposes of the starvation treatment—a preparation for operation, not a substitute for it.

S. C. Graves, Grand Rapids: I know that I but voice the sentiment of all here present when I say I am glad to have been present to-night—glad that I have been here to listen to such a magnificent paper—a paper so up to date, if I may use that expression, so much in touch with the modern idea. And yet many of us knew the principles which this paper contained before we listened to it. Those of us who have had some experience in operating for appendicitis, or in treating cases of appendicitis, have been acquainted for some time past with Dr. Ochsner and his views. We knew what he would say. In fact—and I say it in all modesty—for years past my own experience has run along the same line. It did

so before I was aware there was such a man on God's footstool as Dr. Ochsner. My sentiments were crystalizing in the same fashion—not, perhaps, to the same degree, but along the same line as those of my colleagues know who have heard me talk.

There has been a spirited controversy for years between two classes of operators in appendicitis. This discussion has never been acrimonious; but it has been, as I say, spirited, and it is going on even to the present day, although, as Dr. Ochsner informed me this afternoon, it is growing less and less, and some of our opponents are coming our way. Deaver, Richardson, Morris, Fowler, Murphy, possibly our own Carstens here, have been in the extreme class, operating quickly, early, in time, and every time. That is the position which I took myself early in my practice. I regretted it quickly, and I soon stopped operating that way. I think Brother Carstens, too, is not quite so forcible in his recommendations as he was some years ago in that particular.

Appendicitis is not as dangerous a disease as people have thought it was. It has proven dangerous, I know, but it has been made so by mis-treatment or by over-treatment. If you study the natural history of appendicitis, you will find that it is not such a dangerous disease.

It will terminate naturally in one of four ways: first, by resolution, seeming or real; second, by the development of a local, circumscribed abscess; third, by a sub-acute or chronic state of inflammation; fourth, by a state of a general septic peritonitis. The mortality rate in my experience has been just one hundred per cent in this last group of cases. Whether operated upon or not, they all die.

Now of these four terminations, the first three are not particularly dangerous, though of course any type of appendicitis carries with it more or less danger. The fourth and last, of course, is.

If we could eliminate the factor of septic peritonitis from our cases, appendicitis would be very slightly dangerous to human life. Dr. Ochsner is securing this result by his plan; he is eliminating, to a large extent, that terrific enemy to human life—septic peritonitis. And I do honor to him to-night in making that expression; I believe it to be a fact.

Now as no chain is stronger than its weakest link, and as all chains have some weak links in them, I think this paper of Dr. Ochsner has some weak points. As Dr. Dodge said

before me, it may seem presumptuous for a man of limited experience to criticize one of greater experience; but, after all, each of us has his own opinion and we have a right to that opinion if it is based upon reason. That reason, however, may not be a very sound one; but if we believe in it we have a right to express an opinion based upon it. The point has been raised that cases can be safely operated upon at any time prior to what I may term extra-visceral involvement; that is, while the micro-organism is still within the lumen of the appendix. As both Drs. Dodge and Ochsner have said, we all admit that if this can be done all is quite well, but I maintain that this is a point concerning which the man does not live who can be sure of his ground—who can be certain that he is operating prior to the migration of microbes through the walls of the appendix. He may do that, and of course as a man grows in judgment and knowledge he can become somewhat surer of his ground; but I do not believe that action at such time has any basis in certainty. In fact, I know it has not. I am a little surprised that Dr. Ochsner, who has had such magnificent results, should not give his patients the full benefit of the doubt and refrain from operating at this time. We can almost surely eliminate danger by his treatment. Why not wait then until the proper (safest) time arrives? I think that this point is a just criticism of the paper.

Another remark the doctor made struck me forcibly, viz., when he termed calomel a "murderous" remedy in the treatment of appendicitis. I would like to tell the doctor what I have seen calomel do. I have seen it save the lives of two individuals suffering from appendicitis. In my opinion they were unquestionably saved by its use. I have a vivid mental picture of them now—one a young man in the city of Holland, the other a girl in the village of Spring Lake, where I live during the summer time. These cases had all the symptoms and appearances of impending dissolution. The abdomen in each case was hard and distended; pulse, rapid and thready; they presented the hippocratic countenance; the skin was clammy; death, in fact, was approaching. This was before I had heard of Ochsner and his work, years ago, and I do not believe I would act now as I did then; but, still, those two cases recovered. I said to the attending physician I would not think of operating in these cases, they would die certainly if we operated; but we gave them large doses of

calomel with soda and they had tremendous evacuations. They both recovered and are alive and well to-day. They not only tolerated calomel, but they were benefited and saved, I think, by its use. That goes to show that there is no one plan that is the best for every case. Whether the time will come when we can be capable of scientific discrimination in such cases I do not know. At present, however, we must use that plan which is associated with the minimum of mortality.

The doctor did not mention the subject of the incision, although I know he is a believer in the McBurney plan. The surgeon should not merely consider the present conditions—the matter of life and death—although that is the chief aim; but he should also think of the subsequent matters, of the sequela, post-operative hernia, etc., and therefore that operation or that incision which while giving the operator ample opportunity to do his work, will also tend to prevent hernia and obnoxious sequela, is the incision to choose. The McBurney idea is a splendid one except in cases of circumscribed abscess, where he himself does not recommend it.

Another thing comes to my mind which I meant to discuss and that is the danger of operating too soon after the acute attack. Perhaps some surgeons can tell how soon this may safely be done. I know that Dr. Ochsner in other articles of his which I have read states that within a few days after the subsidence of the acute symptoms the operation can be done. Possibly it can be done by him, but I think an error that these great operators fall into is that they think others can do what they do. Now I believe that Dr. Ochsner can do a great deal better operation than I can and that perhaps he could save a life where I might lose it. Possibly I might do better than some fellow who has had less experience than I have had, and yet when these great men promulgate a doctrine which they know they can carry out, they do not recall the fact that there are a good many, unquestionably thousands, of operators who can not do as well, and therefore such a doctrine is dangerous. Mere talk is not so convincing. Experience tells the story. I remember a case from Saranac which came to me—a case of recurrent appendicitis in a young farmer. He had a lump in the ileocecal region. This was not an abscess. I have got far enough to be able to tell sometimes what the nature of a lump is, whether it is an abscess or not. This

lump was adjudged a diseased appendix wrapped about with omentum and the operation, later, proved such to be the fact. Patient had fever, increased pulse-rate, tenderness, nausea, muscular rigidity, etc. We immediately put him upon the so-called starvation plan and he began to get better right away. In the course of a week the pain on pressure had all gone; even the tenderness had disappeared; his pulse was normal. At that time we gave him a dose of salts, which cleared his bowels out well and left him still painless. I then thought, as this had not stirred up any trouble, it would be safe to operate; so I operated. No pus was found. The appendix was surrounded mostly by the omentum, a bit of the ileum adherent to it. The operation was done *a la mode*, but the man died of septic peritonitis about three days later. This case was drained, but it did not save him.

Another point, that of orrho- or sero-therapy. As I said a few minutes ago, I have never seen a case of septic peritonitis arising from appendicitis, recover, but I have seen general septic peritonitis from another cause, viz., dyo-salpinx, cured by the use of the anti-streptococcic serum, viz., a case of peritonitis following the removal of a pus-tube in a darkey girl—one of those chocolate colored individuals who have no resistance anyway. The darker a colored person the more resistance they have; mixed breeds don't have resistance. This was a young mulatto girl who got septic peritonitis rapidly subsequent to the removal of the pus-tube, and while she was practically dying, with a pulse of 180, she recovered through the influence of the anti-streptococcic serum. It cured that case and if it cured one it can cure others. It seems that there is a field for this remedy in the future.

In closing I wish to state that I think Dr. Ochsner is mainly in the right. As in the past, so in the future, I shall continue to espouse his principles.

Angus McLean, Detroit: As has been said, where there is nothing great to be done, great men are impossible. That would mean where there is something great to be done a great man is possible. When we stop, and think, that within about three years there have passed within the doors of the Augustana Hospital a thousand cases of appendicitis and that all left there well, but twenty-two, there must be a great man there. Formerly we heard much on this subject all over the country. When I was

younger than I am now and went to the meetings of the American Medical Association I sat around in a back seat of the hall to see the great men from the east, from the south, from the north and from the west, discuss this subject and raise their hands, holler and exclaim that every case should be operated upon whenever it was seen, regardless of the condition. They had a death rate of 10 to 16 per cent. Here we have listened to a paper, modestly presented, with a death rate of $2\frac{1}{2}$ per cent. That certainly must convince us all that the conservative treatment is the proper one. Now when a man can bring the death rate in appendicitis down to three times as low as it is in typhoid fever, down half what it is in measles, down to almost what it is in chicken-pox, it is difficult to get up here and criticise his manner. He does not say that this is due to his own manual dexterity, or any particular form of technique. It appears he does not follow any particular form. He judges the cases; the technique follows in the separate cases. Now it seems to be this: that it is not a matter of technique. We all know there are splendid men all over the country whose technique differs but little. Then this must be due to the judgment of the operator, and I think the great success in the future has to come, and the greatest progress is to be made, not along the line of technique, but the line of more accurate surgical diagnosis, to know when to operate, more than a special method to follow. Now, this has been accomplished by Dr. Ochsner's method—call it what you may, elementary stasis, peristaltic quiescence, intestinal rest, or whatever it may be, it seems to have been his keynote of success. His greatest success has been in the unoperable cases, in tiding them over from the danger point, or tiding them over from that point in which he considered that the disease had passed beyond the outer wall of the appendix, holding them and getting them into more favorable condition for operation. That seems to be the one point, that seems to be the secret, that seems to be the principle by which he has reduced his statistics to a minimum—a minimum that is below any other statistics on the same subject in this world. Now, when you stop to think, that principle should not be so very strange to us—should not be so very new to us. I remember when I was a student if a person got appendicitis, any form of peritonitis, in fact any trouble in the peritoneal cavity, the idea was to give him opium—and why? I

think the reason was so that it would produce a certain form of rest, a certain form of intestinal quietude; and the same may be noticed in opening an abdomen in which you will find the omentum rolled around the appendix, rolled around any organ there, which demonstrates the fact that the omentum, if it can, its disposition is to protect the whole area of inflamed surface from the surrounding tissue. It is evident that all it wants is the opportunity, and this idea of perfect elementary rest, of perfect prohibiting of any sort of food, gives the omentum an opportunity. Now it is plain to me that this is the point upon which he has built up those statistics. It seems to me this is the point of which we should take notice. This particular form of treatment is within the reach of everybody—within the reach of every physician, if he saw fit to use it. But this form of treatment, this prohibiting of any food, if it produces elementary stasis—if you wish to use the word—that principle is within the reach of every person, and I cannot see a bit of harm, or why it cannot be tried in every case that any physician should come across in which there was a particle of doubt in his mind as to what it was. I think the same principle as he has applied here, restricted to appendicitis, would be true of any intraparietal inflammation; that is, if you have peritoneal inflammation of any kind, surely you could bring about the same result. If it will bring about that result of the appendix it will bring it in the omentum, ovary, or tube, or anything that lies within that cavity.

So I want to say, without taking up more time, that I wish to express myself clearly on this point, and forcibly, for this seems to be the keynote of his success. We will admit his technique might be slightly better than other operators, but he has not claimed that any part of his technique adds to his success. It is this sort of preparatory treatment. There is one trouble in that, and that comes to the general man, and that is that you can carry it out in the hospital much better than you can in a home of any kind, because it is almost impossible to impress upon the parents or the people in charge of keeping away strictly all food. They say they can't see what harm a teaspoon or a tablespoonful of water or a little bit of milk or something will do and they will give it to them, and if you follow it up and question them closely you will find that something like that occurred.

I wish to extend my congratulations and compliment Dr. Ochsner on these splendid statistics.

J. H. Carstens, Detroit: What is there to discuss when a man comes here and reports a thousand cases of appendicitis with a death rate of 2.2%? There is nothing to discuss. We simply have got to bow our heads to the superior skill, to the superior knowledge, to the superior judgment of a master.

Many a discussion have I had with Dr. Ochsner. I bearded the lion in his den. I went over to Chicago and jumped on him, as the boys say, right there—not because I did not think he was right, but because I thought he did not give the right kind of impression to the general practitioners on this subject. All over they said "Oh, I can starve patients," and they starved them, and starved them, how? In a "namby pamby" kind of way they starve them; not in a way as Dr. McLean has just said, as it could be carried out in the hospital. The result is a large mortality, not because the treatment was not right, but because it was not carried out properly. I claimed all the time that when you had diagnosed a diseased appendix the only safe way for the patient was to have it taken out, and that there was no danger in taking it out. Dr. Ochsner told you the same thing tonight—he agrees to that. When you diagnose a case you should remove the appendix if you can do it within the first 24 or 36 hours, before rupture has taken place. He starves his patients, he uses judgment, he does this, that or the other, just like every other surgeon does, picks his time and operates when he thinks it is best. If the patient is so weak, run down, debilitated and septic, and the heart is so weak, no surgeon would operate upon such a case as that. The patient might die on the table. He tries to build that patient up and then he operates on it. Now the trouble is and has been all the time that the impression has gone about that the treatment of appendicitis is a simple thing, that they will recover if you starve them. The laity even know about that; they say "Oh, well, I have had that treatment of starvation and I got over it, and I have got my appendix yet." In a couple of months they have another attack and they do the same thing. Some doctors encourage that kind of treatment, and by and by, six months

or a year, they have another attack. They go through that with the same kind of treatment and they recover. Now, what are the results? They are in danger that sometime they may have these attacks of septic peritonitis where even Dr. Ochsner has had 30% of mortality, and secondly, they are constant invalids. They go around—oh, in a little pain; can't do very much work; get secondary troubles, disturbance of digestion, disturbance of the stomach and nervous conditions, neuresthenia and so on, simply because the appendix is not removed. "Oh well," they say, "that is not very serious, that appendicitis. I got over it easy; I was starved." That is the trouble, and that is where I have had my fight with Dr. Ochsner. But now you see, that he reads his paper, it is clear; there is no question about it at all. He says if you get the cases early enough—he don't get them early generally—but he says if you get them early enough take the appendix out; if you don't get them early and they have general peritonitis, starve them, rest the bowels and then take the appendix out. He does not let one escape from his hospital; he has got them all, and he takes the appendix out. You see then, gentlemen, we finally agree all right; great minds always in the same channel run.

A. J. Ochsner, Chicago: In the first place I will thank the gentlemen very heartily for the discussion they have given me. The points that were made are all very appropriate. I will answer these various points very rapidly, so as not to consume much time.

I must thank Dr. Carstens particularly for his discussion here and for his former discussions, because his discussions and those of some of the other men, particularly those of De Vorr and some of the most radical men, have served to cause the general practitioner to read over those conclusions. I have placed my position on appendicitis in very definite conclusions, so that they could be looked over without compelling the practitioner to read a volume. And just as these discussions have brought out the facts, and as I have said over and over again, giving a little liquid food is a dangerous thing, there is no doubt but what a number of people have

died because my position was misunderstood. I have no doubt but what there are many now living who would be dead had it not been for their following these conclusions accurately. In other words, if they are not followed accurately they are a dangerous thing to follow at all.

Regarding all of these other points that were made by Dr. McLean, and the points of criticism that Dr. Graves made, and the points that Dr. Dodge made, they are all very well taken, they are all in that same direction. You cannot expound or establish any particular treatment in so dangerous a disease as appendicitis without leaving some points open which will result in a certain amount of mortality. I have brought that out in my paper.

I will say one thing about the streptococcus infection, because that has been mentioned many times. Now in streptococcus infection of the extremities we have found that an infection will become limited within a few days if we simply place the extremity at rest. We have a localized abscess; if we open it and then place the extremity at rest we have found that the streptococcus is one of the easiest microbes to commit suicide. You keep the streptococcus confined to any definite region and very soon he becomes inactive, and I believe that by causing rest, even in a streptococcus infection, a patient will recover, when that same patient would not recover if you made an abdominal section. So I believe that this same principle can be employed here. There is a question that has been set up, namely, as to whether I believe that the appendix should be removed when one opens the peritoneal cavity for the removal of other conditions. I believe if the appendix is long and is liable to become adherent to the surface from which these other tissues have been removed, that it should always be removed instantly; that is, although there may be no disease in the appendix itself. If there is no danger of such an adhesion, then I think it is not necessary. As a matter of fact I would rather have mine removed in case something else had to be done, but I have not been able to convince myself that I wish to do it in others.

VASCULAR DISEASE AS A FACTOR IN THE ETIOLOGY OF EPILEPSY.*

WM. J. HERDMAN,
Ann Arbor.

One of the most hopeful signs in modern medical research is the relinquishment of attempts to carry by assault the strongholds of disease that have successfully resisted and defied all efforts to overcome them in times past, and the willingness to adopt the slower but much surer methods of the sapper and the miner and be modestly content to work more patiently, so as to accomplish by degrees what has proved impossible through a general engagement.

The etiology of epilepsy is yet far from a solution. Even the physiological interpretation of the phenomena which characterize the disease is far from complete and satisfactory, yet it has been very generally conceded that either in the relation of causation or as a constant accompaniment of the symptoms which are present in epileptic attacks of whatever sort, derangement of the vascular system cannot be ignored.

A constant and uniform blood supply is a fundamental requirement for maintaining a stable and harmonious action of the central nervous system.

Abundant evidence can be produced, both physiological and pathological, to show that even a momentary cessation or interruption of cerebral circulation occasions sensory, motor or psychical disturbances, varying in nature according to the locality most affected and the degree to which the cerebral neurons are injured by the delay in receiving their supply of nu-

triment. The morbid effect may vary from a momentary syncope, an involuntary twitch of an arm or leg, a facial grimace, up to a prolonged period of unconsciousness attended by tonic and clonic convulsions, the characteristic *grand mal* attack, or it may be confined within the limits of the psychical functions of the brain.

In experiments upon both animals and man with a view of determining the effects resulting from a diminished or increased blood supply to the brain, the preponderance of evidence goes to show that a state of anæmia or ischæmia brings the nearest approach to the condition that is present in epilepsy as far as the blood supply is concerned. Cutting off the whole blood supply of the brain will cause convulsions but not always true epileptic fits. A similar effect may likewise be brought about by compression or by ligation of the common carotid arteries. If arteriosclerosis is present in one subjected to such arterial compression, the fits are more readily induced (Naunyn, Concato, Kussmaul). Georges Lemoine in an article upon the cardiac origin of epilepsy and its treatment,¹ cites the fact, "that profound hemorrhages in animals give rise to vertigo, syncope, and sometimes convulsions," and I have myself witnessed in one case of a healthy young woman who died from acute hemorrhage a series of clonic spasms lasting for a brief period which bore a close resemblance to the

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(1) *Revue de Med.*, 1887.

clonic convulsions of a typical attack of epilepsy.

We are all more or less familiar with the syncope which attends the suddenly induced vaso-motor spasm of the cerebral vessels occasioned by fright, profound emotion or mental shock, or excited by pain or other sensory impression along some reflex path from the periphery to the nerve center, and we cannot but have noted the resemblance of these temporary vascular changes with the accompanying vertigo, pallor and partial or total loss of consciousness, to the symptoms present in attacks of *petit mal*.

We are somewhat justified by these facts of daily and common observation in looking upon any defect in the vascular mechanism, either functional or organic, occurring in connection with attacks of epilepsy, as an important factor in their causation, if not the sole cause.

It has only been within comparatively recent times that the attention of observers has been directed, with that care which the facts warrant, to this relationship of the blood supply to epilepsy, but the amount of testimony which has accumulated in that brief period in support of the view that epilepsy is the result of vascular disease is of itself significant, though we are yet perhaps far from the point where we can regard the evidence as convincing.

Critical reviews of the literature upon this subject are well presented in two articles recently published, one ⁽²⁾ by Dr. R. L. Jones and Dr. Clinch, entitled "Epilepsy of Cardio-Vascular Origin," and another ⁽³⁾ by Dr. T. L. Chadbourne

upon the "Association of Epilepsy and Heart Disease."

While the reports collected by these authors are not strictly limited to instances where disease of the heart has been associated with epilepsy, but call attention to the frequent and no doubt causative relationship which other vascular changes bear to this disease, especially that of arterio-sclerosis, yet it seems to me that they, as well as others, have failed to recognize the fact that there are many ways in which a deranged circulation may be brought about, and exist as an important factor in producing the unstable condition of the cerebral cortex characteristic of epilepsy, which do not come under either organic diseases of the heart or arterio-sclerosis.

The vascular cause of epilepsy will not have the full credit, or blame, which should properly be assigned to it unless every means by which the nutrient fluids are hindered in maintaining their normal and healthful relations to the cerebral neurons is taken into consideration. The causes of such hinderance, other than those above mentioned, are very numerous: Embryonic or congenital defect in development of the cerebral blood vessels; retardation in the blood or lymph current by adenoid tissue or by hyperplasia of the connective tissues; anæmia either general or local; a disturbance of the normal intra-cerebral pressure from an excess in secretion of cerebro-spinal fluid; reflex vaso-motor disturbances of various origins. These and many others might be mentioned whereby the cerebral cells will be robbed of their necessary blood supply in such a manner as to bring about an explosive or erratic action at more or less frequent intervals. An analysis of the statistics so far gathered has

(2) *London Lancet*, Sept. 16th, 1899.

(3) *American Journal of Med. Sci.*, 1903, Vol. 125, pp. 461-485.

however revealed the fact that there are two kinds of vascular disease accompanied by epilepsy which by reason of the period of their development, as well as by the nature of their organic changes, naturally divided the cases into two classes: Those occurring in early life with valvular disease of the heart and those of advanced life in which arteriosclerosis is the most constant organic change but which have, associated with this, valvular defects in some, though not in all instances.

The claim is not made by all who have called attention to the association of epilepsy with cardiac or vascular disease that the latter stands in a causative relation to the former, yet there are many of the cases in both the above classes in which no other sufficient cause could be discovered.

In order to establish such causative relationship beyond all question the rules laid down by R. Stinzing ⁽⁴⁾ (a) that the heart or arterial disease must precede the epilepsy; (b) other causes must be excluded; (c) the coincidence must be frequent; (d) and finally, an improvement in the vascular disease must cause an improvement in the fits, should be more or less fully complied with.

It is, I believe, quite generally conceded that the first and last of these conditions have been in many of the cases reported fully met. Perhaps more careful observation and research, with attention directed to *all forms* of vascular derangement, may give us more abundant testimony in support of the existence of the remaining two conditions—the exclusion of other causes, and the more frequent

presence of vascular disorder. The abundance of testimony already at hand going to show that treatment given with the view of improving the vascular disease has in many instances lessened or abolished the epileptic attacks, does much toward demonstrating a causative relation in these cases at least. While the nature and origin of the vascular derangements in the two classes of epilepsies to which I have referred are radically different, the final effect which they produce in creating a deficient and fitful supply of nutriment to the cerebral neurons may be very much the same. A valvular disease of the heart in a child may cause a condition of brain anæmia very similar to that brought about in a person of middle or advanced life by arterial-fibrosis.

The vascular theory of the origin of epilepsy is attractive in that it simplifies its pathology and assists us in harmonizing in one conception the very great variety of manifestations which that order of phenomena presented by epilepsy proper and such like disorders present, but we cannot say that it gives promise of a much better prognosis since the conditions it reveals are often of a nature which treatment, even tho' wisely planned and well directed, cannot do much to modify or improve.

The cases which I have selected to illustrate the theme of this paper belong to the first class and are the children of one family, all exhibiting as a primary defect serious heart lesions, undoubtedly congenital in origin. Of the four children born to these parents one died within a few weeks of its birth because of an unclosed *ductus arteriosus* (a "blue baby.") Another, a remarkably bright, handsome, and to all outward appear-

(4) *Ueber den ursächlichen Zusammenhang von Herkrankheiten und Epilepsie. Deutsch. Archiv. f. klin. Med.*, 1899.

ances healthy boy of three, has unmistakable signs of leakage of the mitral valves; another, a boy ten years of age, has a heart murmur in systole which is not reflected to the axilla, apparently an aortic stenosis, with decided arrhythmic cardiac pulsations, giving a remarkably variable arterial tension. The remaining child, a girl of 13, has also a very prominent heart murmur in systole, due, it would seem, to mitral insufficiency. She has likewise very defective peripheral circulation, although she is large for her age and apparently well nourished.

The mother has had one miscarriage due, as she thinks, to over-exertion while rowing.

The oldest of these children, the girl, was to all appearances a strong and well child both mentally and physically up to the age of six. At that time she had an attack in the night, epileptic in character, and once each year thereafter for three years. After the age of nine the attacks recurred at intervals of three months for a time, then increased in frequency to one in six weeks and recently, during the past few months, the intervals are much shorter. Until the summer of 1903 the attacks were all nocturnal but since that time they have taken place in the daytime as well.

Accompanying the development of the epilepsy, for her attacks as described have all the characteristics of *grand mal*, there has been in the child marked signs of cerebral defect and mental deterioration. She has perhaps always been somewhat near-sighted, but of late her vision has failed so that she does not, as far as can be judged, see things as clearly as formerly. Her eyes have a vacant, staring appearance. She is stumbling and

awkward in her movements, due in a measure, no doubt, to her poor vision. In the past three months she stutters in her speech. Her mind is much less bright than formerly; she has lost much of the knowledge she had acquired at school; is unable to read and write as she once did. She talks in a meaningless way; sings senseless things, is restless and irritable, and acts "silly" as her mother expresses it. Taken altogether the symptoms in her case indicate that her cerebral development has met with a decided check, and both mental and physical distortions are the consequence.

The second child, the boy of ten, has always been rather delicate. At birth his head was much compressed and elongated by a difficult delivery and a congenital hernia appeared soon after birth. He had measles in his early childhood at which time his eyes were much affected and his parents are of the opinion that the imperfect vision he exhibits had its beginning at this time. He had an attack of pneumonia at the age of five from which he made a good recovery, but another attack at the age of seven left him with a chronic bronchitis from which he still suffers. He began school at the usual age and attended for about two years when he was compelled to withdraw because of failing eyesight, although he had been fitted with glasses and had used them for several months. He was bright and made considerable progress in his school work in spite of his defective vision. About one year ago, or six months after leaving school, he had what is believed to be his first epileptic attack. It occurred in the early morning while he was asleep and was observed by his mother whose description showed it to be a true *grand mal seizure*. The

attack was followed by a severe headache which lasted several hours. Since then he has had other attacks at intervals of three months and two months, then five more in the space of four weeks, and recently as many as three in one day, all of the same character and for the most part occurring in the night and followed by a severe headache on his return to consciousness.

This child, aside from the heart lesion above mentioned, the congenital hernia and defective eyes, gives many other indications of imperfect development, such as a misshapen supra maxilla, incomplete dentition, and ears of disproportionate size and shape. Such vision as he at one time possessed has rapidly deteriorated until now he is wholly unable to distinguish familiar objects, such as pictures in a book, nor can he recognize distinction in colors. His distant vision is somewhat better so that he has little difficulty in finding his way about. Thus far his mind shows no impairment nor is there any lack of tractability or self-control.

The youngest child, the boy of three, exhibits no stigmata of degeneration or defect in development, other than the valvular disease of the heart, and so far he has had no spasmodic attacks or other evidences of physical or mental deterioration, but is as fine a looking child and as intelligent for his age as is ever seen.

Careful inquiry and examination failed to discover anything in either of the parents of these children that would account for their vascular defects. But among the near relatives of both father and mother there are cases of mental weakness, insanity, and organic and functional nervous disorders. Moreover on the mother's side there have been several

deaths of near relatives from pulmonary tuberculosis.

Certain it is that some unfortunate combination of embryonic conditions results from the union of these parents, which has expressed itself upon the vascular mechanism of every child born to them.

When, with a view of determining the relationship which the vascular defects in these children bears to the onset of the epileptic seizures, we apply to them the rules which Stinzing has laid down: We find, (1) that the heart-disease long preceded the seizures in both cases as in the case of the youngest child which has not as yet had any spasmodic attacks, (2) that other causes can be excluded, and, (3) that as far as two cases are concerned they are almost identical in the age and manner of development of the cerebral symptoms.

As to the fourth requirement laid down by the author, in order to prove the causative relationship beyond all question, (4) the improvement in the fits as a result of treating the vascular disorders, sufficient time has not yet elapsed for determining it.

DISCUSSION.

David Inglis, Detroit: I have enjoyed hearing Dr. Herdman's paper. I think you may sum it up if I understood the doctor right, that his idea is that, in such cases, we have to do with an impaired blood supply to the brain. Now it is perfectly true that if you suddenly stop the blood supply to the brain you bring on a convulsion, but there is not a practitioner here who is not well aware of this fact, that there are many patients, constantly passing through our hands, who have a very serious impairment in the amount of blood and in the amount of blood that is capable of carrying oxygen, but as a plain matter of fact we do not expect them to have epilepsy. Take the innumerable cases of tuberculosis in the advanced stage of the disease and what is more noticeable than a profound

deterioration of the blood. Once in a while a tubercular patient at the end of the disease will have a fit but they are much more likely to be delirious. How many of you have seen chlorotic women? Do they have epilepsy? No. What happens if we bring about any sudden but not what you might call total deprivation of blood to the brain? An epileptic fit? No. Syncope, which is a totally different thing. Take epileptics as we see them, as they run, are they anæmic? Are they thin blooded or have they an inadequate blood supply to their brain? I don't think so. Isn't it a fact that the average epileptic is a gross feeder, eats abundantly, is fat and greasy and full blooded? Don't we have to take means to stop them from eating so much? They are lazy but they are certainly not anæmic. As a plain matter of fact the ordinary epileptic is not troubled with an inadequate blood supply to the brain. It seems to me the true explanation of epilepsy is not an interference or diminution of the blood supply to the brain but an intoxication of the cerebral elements and there are a variety of poisons which stand in a causative relation to it. It seems to me that in certain cases we do get cases of epilepsy in which we are satisfied that the epilepsy has something to do with the circulatory disturbances and it is this kind of circulatory disturbance. It is a circulatory disturbance of that sort that leads to a venous congestion in the brain, and it is true that in some of these cases if you go to work and give them digitalis and clean the venous blood out of the brain and out of the veins generally and send the arterial blood through and get rid of the venous blood we can help them, and we do it by getting rid of the noxious poisonous element contained in that venous blood. I do not like to differ from the doctor, but here is the place for discussion. We are all interested in epilepsy; it is a vital matter whether we shall regard epilepsy as a matter of blood supply to the brain or as essentially in the main a toxemia. I think, in the main, it is a toxemia. Take Dr. Herdman's own cases. I think he fails to establish his point and I think for this reason: Here are four children born who inherit, not directly from father and mother but a little further back, a perfectly horrible heredity. They are born with a nervous apparatus which goes on for a little while fairly well and then begins to break down, and it seems to me in every one of Dr. Herdman's

cases their epilepsy can be attributed to the miserable organization of their brain and not to the condition of the circulation.

Wm. M. Edwards, Kalamazoo: I am sure we are all interested in Dr. Herdman's paper as we must be interested in anything bearing on the woeful disease of epilepsy. We are frequently at a loss to define epilepsy and sometimes we say it is an aggregation of symptoms, confessing in that statement our ignorance of its etiology and of what lies back of it. For this reason I say we should welcome anything that will add in any way to our knowledge and we should welcome any theory of the cause of the disease, even if it should prove in the end to be a theory only. Having more than a hundred epileptics under my immediate care I can not but agree with Dr. Inglis that as a rule they are full blooded, full feeders and not of the type of people that have cardiac lesions. At the same time when Dr. Herdman was reading his paper I recalled several cases of epilepsy, seemingly true epilepsy, in patients sixty years or more of age in which I was pretty sure at the time, and I am glad now to have my opinion verified by the doctor's experience, that the cause of the epilepsy was an arterial sclerosis and interference with the circulation.

I feel about the particular cases cited somewhat as Dr. Inglis does, that in those cases perhaps it is more what the doctor calls the "horrible heredity" back of them than the cardiac lesion which is responsible for the malady.

We should feel very grateful to Dr. Herdman for bringing to our attention in this very lucid way this interesting series of cases. He has stimulated our thought and I hope we shall each try to prove or disprove for himself that arterial or cardiac disease may be a factor in the cause of this very distressing disease.

W. F. Herdman, Ann Arbor: I am heartily in favor of every word that has been said in this discussion. I think though both the gentlemen who have spoken have failed to recognize the purpose of the paper and thought throughout: Vascular disease as a factor, not as a cause—a sole cause—but as a factor in the production of epilepsy. Even if the patients are full blooded, having plenty of blood in their system, in many cases you will find the blood does not go to the brain, or if it does get there it does not get there

in proper quantity or in a proper manner for nutrition. This is well illustrated by the arterial sclerosis case the doctor has referred to.

Any reference to the water supply of Grand Rapids might perhaps be out of place at this time, so we will speak of a water supply in general. The pipes supply the town with water from a reservoir which would furnish them with a sufficient amount to reach every tap, but that in the process of construction where there should have been a four inch pipe there is a one inch pipe. This has happened in the city of Ann Arbor. Time and again the development of a certain portion of the city of Ann Arbor has gone contrary to the expectations of the water company. A dozen houses have been built up where they expected to have one, and they have a one inch pipe supplying this dozen houses, and when one draws water from the tap the others cannot get any until that other one stops. Now that

is a homely illustration, but it illustrates what occurs in certain of these conditions of vascular disorder in young children. There are portions of the brain developing very rapidly, but the blood supply reaching that portion of the brain is not sufficient for the purpose, and in consequence it either stops its development or is checked in its development and generates an erratic action in consequence, and a lack of balance is the result of that defect. That defect is illustrated somewhere in symptoms along the course of the vascular mechanism. Here is a series of cases in which Dr.—has shown such a defect in the vascular mechanism. We cannot treat a "horrible heredity." That is beyond us. We cannot deal with that, but we have got to deal with the person.

What I want to do in this paper is to call the attention of the profession to certain things in the treatment of epilepsy.

ADVANTAGES OF EARLY OPERATION IN HIP JOINT DISEASE.*

E. C. TAYLOR,
Jackson.

I shall very briefly present to this section for consideration a subject possibly too old to demand the attention of the strictly modern surgical specialist, yet embodying a class of cases which are ever with us, and one which usually even in the larger cities comes, primarily at least, into the hands of the general practitioner, and its gravity often overlooked for a period sufficient to allow the disease to get well advanced before receiving such treatment as will arrest the pathological changes which begin very early, and quickly result in the destruction of bone tissue.

Believing as I do that modern teachers, writers and general surgeons are giving too little attention to this subject, is my excuse for presenting my views and experience with "Hip Joint Disease."

The title is a misnomer in so far as it might imply that all cases of hip disease are operative cases. Such, however, is so far from the fact that I do not wish to go on record, by implication even, that such is the case; and it is only such cases as clearly indicate the presence of an abscess and possible necrosis, and that the necessity will sooner or later arise for the removal of such necrosed tissue, that I shall refer to as calling for such operative procedure "sooner" rather than "later." As I believe there is no better

*Read before the Section on Surgery at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 27, 1904, and approved for publication by the Committee on Publication of the Council.

defined principle in surgery, indeed almost the first principle of surgery, that whenever necrosed or dead tissue is found in the human anatomy it should in all cases, where possible, be removed, as its presence tends to destroy all healthy tissue cells in its immediate neighborhood, thus causing an extension of the necrosis. And especially is this true when it occurs in bone tissue, no matter what is its cause or location. It is therefore quite as necessary to follow out this principle in necroses of the bone in any location as from those occurring from this cause, "Hip Joint Disease." "Morbus Coxarius," "Coxar" Tuberculosis of the Hip Joint," "Hip Disease," "Arthritis of the Hip," etc., are the names given to that somewhat frequent and formidable affection of childhood, occurring chiefly in the period of rapid growth, usually starting prior to the twelfth year, the majority of cases developing between the ages of three and six years.

Whether the various names given above are synonymous terms, or rather if any one of these names would properly apply to all these cases, I am not prepared to say. I do not propose to enter into a discussion of the subject of the causes or pathology in so far as they relate to the question of tuberculosis. I certainly do not care to say that I even believe that all these cases are tubercular, although a large proportion of them are undoubtedly tubercular, but where the line of demarkation occurs (if there be one) between the tubercular and the non-tubercular cases is uncertain and unnecessary perhaps, as I cannot see where the treatment has been greatly changed, modified or improved since the comparatively recent awakening or enlightenment on this subject of cause has occurred. The

treatment of to-day being practically the same as taught by Sayre twenty-five years ago, I shall therefore not attempt to discriminate in the class except so far as it relates to the stage of progress reached, which might call for operative procedure with the object of saving the joint in its anatomical condition, thus preserving the most natural position for the junction of the leg with the body, even though ankylosis with its consequent immobility is the best result obtainable—even that condition being considered better by many than false joints resulting from excision, or rather, better than the chance of obtaining a good false joint after the loss of the natural one by excision.

The pathology of morbus coxarius varies with the character of the lesion. The morbid changes which occur in the most common variety are those of an osteitis—probably tubercular—primarily followed by a destructive arthritis.

The initial lesion occurs as interference with or arrest of nutrition near the epiphyseal cartilage, due probably in a majority of the cases to a deposit of tuberculosis material at this location. The cancellous cavities become filled with embryonic cells and absorption of the lamellæ occurs. The inflammatory products undergo a slow process of metamorphosis that may become caseous or the process may terminate in a pus formation or abscess. In any case the process of bone development is arrested and the osteitis develops and spreads in all directions. The destruction of the epiphyseal cartilage occurs, followed by separation of the epiphyses. The lining membrane of the capsule becomes involved and chronic synovitis follows which terminates in inflammatory changes in the tissues proper of the capsule; the joint be-

comes filled with the products of the inflammation, causing the distended capsule to rupture, especially if all motion be not avoided and possible, even probable, dislocation occurs with separation of the epiphyses and destruction of the neck of the femur, shortening ensues. While these are the probable and usual changes, there is another class of cases of hip joint disease where the pathology is different. Here the morbid condition may begin either as a simple idiopathic or more probably a traumatic synovitis, the destruction of the bone being secondary, commencing from the articular surface and extending inward. Here also there is necessarily an injury to, or arrest of, nutrition, and as a result, breaking down in the digital fossa of the acetabulum there is destruction of the ligamentum teres.

It is also possible that the initial osteitis may be situated in the bones forming the cotyloid cavity. Still more rarely it is contended that morbus coxæ may result from a peri-articular inflammation: first, a syndesmitis; second, a synovitis, and, third, arthritis.

The *causes* of hip disease are chiefly predisposing. Anything which impairs nutrition in general tends to destructive osteitis in children (especially of the poorer ill-nourished class) and consequent arthritis.

To what extent *traumatism* enters into the cause is an open question at this time. Formerly, however, it was regarded as the most probable one in all cases. And while it is worth consideration as a possible existing cause, there must in my opinion be the predisposition on the part of the child, and by predisposition the tubercular tendency must certainly be considered.

Stages.—Some writers divide the disease into two stages, the first embracing all the phenomena of inflammation up to a point of destruction of tissue structures which enter into the formation of the part. The second stage embraces the phenomena of destruction, viz.: the shortening of the neck diastasis and rupture of the ligament and capsule and luxation.

Senn, however, who I believe has had as large an experience, in this class of conditions, as any man in America, divides the disease into three stages, classifying the stages and symptoms of each stage in the usual order of their appearance as follows:

Stage 1.—Slight lameness, impaired mobility; rigidity of muscles, muscular atrophy, swelling, pain.

Stage 2.—Pronounced lameness, rigidity of abductor muscles, atrophy; flexion, abduction and eversion of limb, gluteo-femoral crease lower down, apparent lengthening of limb, reflex nocturnal pain, peri-articular abscess.

Stage 3.—Shortening of limb from destruction of acetabulum at head of femur, flexion marked, curvature of spine when extension is made, abduction and inversion of limb, formation of abscess.

The above I believe to be one of the best classifications in existence so far as it goes, but is too general and incomplete.

Following out the plan of classification however, the prognosis depends largely upon the influence of early treatment—age, the existence or non-existence of visceral tuberculosis, or amyloid degeneration of internal organs, and the result hoped for is a movable useful joint, a fibrous ankylosis or bony ankylosis.

The treatment in general is classified as *first* and *foremost REST*, obtained

first by long continued extension; second, *auto-extension* (Hutchinson's shoe and Douglas' apparatus combined or some brace of like character); third, immobilization.

In well developed tubercular cases the intra articular and parenchymations injections of antiseptics. Arthrectomy in synovial variety, resection and amputation to save life in desperate cases, and ixsection of acetabulum.

This practically covers the field of treatment, but the most important feature of the treatment, and the feature which prompts this paper, is at what stage should the expectant plan of treatment be abandoned for the more heroic one of boldly cutting down on the joint and removing all the necrosed tissue possible and keeping the opening well packed, thus making possible the thorough irrigation of the affected parts with antiseptics.

Personally, I have encountered a good many of these cases, and of these cases I have excised five. Three came into my hands at a comparatively early period of suppuration, as manifested by open sinuses through which a more or less free discharge of pus was flowing and were promptly freely opened, free drainage established, with the result that in all three a comparatively small amount of bone tissue was lost; and under antiseptic irrigation and packing, together with absolute rest and extension, I was able, after a period of about three months in each case, to allow the wound made by incision to close up because of absolute disappearance of pus. A good useful joint without apparent shortening resulted in all the cases, although in all the cases the precaution was taken of immobilizing the joint for quite a long period after by means of the use of the combi-

nation of Sayre's long splint and the Hutchison shoe. In five cases the disease had progressed so far that complete excision of the joint was found necessary, and one of the cases was so extreme that I will briefly report it to illustrate the possibilities in these cases and the error of too long continuing the expectant plan of treatment.

This case was exhibited, I believe, at the April meeting of the Kalamazoo Academy of Medicine, in 1891, and again at the July meeting in 1892, or something over a year later.

M. C., age 12, had been up to the age of eight years a healthy child. The family history was not overly good. There was a negative history of tuberculosis in different branches of the family on the father's side, and I will say that five years later an older brother died of pulmonary tuberculosis. There was said to have been a somewhat severe traumatism by a fall on a stone striking on the trochanter when the child was eight years of age, followed in a few months by the early symptoms of hip joint disease. One of the most competent men in the city was consulted, and after a few months, and repeated examinations, made a diagnosis of hip disease, and prescribed and applied one of the numerous shoe brace appliances to produce extension and rest, and for a period of a year there seemed to be some arrest of the symptoms, or at least a check to the progress of the disease. Now I wish to say, not in criticism of the treatment, but from the result, I believe had the child been put to bed right at that time and extension and long splint to prevent motion been applied, the result might have been different, although the treatment followed was strictly in accord with recognized authorities.

But the disease soon began to progress and the various methods of treatment following availed nothing. The doctor finally got discouraged with the case and said so, and I was called in to see her in the spring of '91. She was then, as I have said, twelve years old, nearly as tall as the average girl of that age but weighed twenty-four pounds, with a hectic flush; an afternoon temperature of 102° F. There were six open sinuses all freely discharging pus, one over the trochanter, one four inches lower down, one on the thigh, two in the groin, one in the back in the lumbar region near the spine, one in the iliac region, and pus was discharged through the vagina. The child suffered the most intense pain constantly. A probe passed in the opening of the leg showed the bone extensively necrosed. I presented the case at the academy to get as much justification for immediate operation as possible, and while all agreed that operation was the only thing that could be done, it was a question of whether I wished to allow her to die a natural death or desired to hurry up the dissolution, in other words, kill her. Believing there was a chance to do something by operative measures, and illustrating the axiom that "fools rush in where angels fear to tread," I decided to take the chance. It was found necessary to make an incision extending almost from the crest of the *ilium* to the middle of the thigh. The femur was found so necrosed that it had to be taken out at the middle third. About seven inches of the shaft was removed, a mass of fibrous adhesions made almost impossible the separation of the necrosed bone. The capsule of the joint was all gone and about the joint was one immense pus cavity. The acetabulum or the bones

forming it was so necrosed that it had to be chisled out. The ischium and about one-half of the ilium was in much the same condition, but enough could be left to maintain the continuity of the pelvic bones.

Except for about two inches on the posterior aspect of the lower end of the detached portion of the femur, no periosteum could be left.

After thorough irrigation the opening was packed with iodoform gauze in every part with the object of preventing closure of any part of the opening.

The child rallied nicely from the two hours of anæsthesia. Extension was immediately applied and the long splint used. On the day following the operation her temperature became normal and never again became elevated. For two weeks a perfect river of pus flowed from the opening, so much so that the packing had to be removed every day and the wound thoroughly irrigated with gallons of a 1/3000 bi-chloride solution and a little later was followed each time by a free use of peroxide of hydrogen.

This treatment was not varied for nine months. After five months we began to let the lower margin of the wound slowly close, but with great effort a large opening over the trochanter was maintained for a full year, two months after any pus had been seen. Fifteen months after the operation, the child wearing the Sayres-Hutchinson support, was again exhibited at the Kalamazoo Academy in the following condition: Weight 112 pounds, a gain of 88 pounds. She had grown two inches in height, a shortening of 1¾ inches was the most that could be discovered in the affected leg. An artificial joint giving almost as free motion as the natural one existed, no opening nor other indication of diseased tissue was present.

The use of the shoe was continued during the day for about four months longer, or a total of about 20 months, immobilization having been maintained. The girl developed into a strong, healthy, vigorous woman, wearing a shoe with a $1\frac{1}{2}$ inch thickened sole, and having only a comparatively slight hitch in her walk.

This I concede is an extreme case, one which went the limit without operative measures, an extreme which I can scarcely imagine being often reached before operation. But I have seen others that went nearly as far, and I maintain there is no excuse nor apology for allowing these cases to drift after the presence of an abscess is clearly established and drainage is freely made either by nature or the surgeon, and a flow of pus has continued for a reasonable period without indications of improvement.

I am convinced that we need not expect a cure in these cases, no matter what the treatment, unless a free removal of the diseased tissue is accomplished, and almost invariably a complete excision is necessary to insure that result. If there is a doubt I should always excise the joint. A perfect artificial joint can almost certainly be assured, which is nearly as good as the natural one, with little shortening and perfect mobility.

DISCUSSION.

F. W. Robbins, Detroit: It seems to me that the writer has given us an excellent paper, showing what can be done in the line of operations in hip joint disease. He has also shown us that conservative treatment before the formation of an abscess is followed by the best results. I think it is surgical experience generally that the formation of an abscess is a late symptom of hip joint disease and not an early symptom at all. I don't think any of us would for a moment say that where an abscess exists, with a sinus extending down to the bone, that any treatment is good that would not bring about the most complete

drainage. If the drainage is perfect, through the sinus already made, the necrosed bone will free itself and come away in a short time. If the drainage is not complete, then, of course, make an opening, find that piece of bone and remove it, or thoroughly curette. I think, however, it sometimes happens in these cases of diseased bone, where necrosis has existed for some time, that in getting at the bone that is diseased more healthy bone than is necessary may be removed; the line of separation is not always easily determined. The tendency of nature is to separate the diseased bone only from the healthy. I certainly agree with the doctor in general in the conclusions that he has presented: That where we have suppuration or abscess, where the sinus is long, where nature has difficulty in discharging the pus that exists, that we certainly should cut down and freely open that sinus in order that drainage, the important thing, can be thoroughly carried out.

W. T. Dodge, Big Rapids: I wish to briefly report another extreme case of hip joint disease, resulting from injury, to illustrate how sometimes satisfactory results may be obtained even in cases in which at first sight it would be thought impossible to save the leg.

A few years ago a case came under my care, after having been treated for several months by others, of a young man of 25, having sustained an injury in a foot ball game, an injury of the femur about the middle of the shaft. An abscess had formed, and it had been opened and the necrosed bone had been curetted, and when he came into my hands the sinus was still open, leading down to the middle of the shaft of the femur. He also had some swelling, and crepitation in the hip joint—to leave out the details. Upon examination it was found that the infection had probably travelled up the medullary canal to the joint which was disintegrated and the pelvic bone as well was extensively diseased. I removed $\frac{3}{4}$ of the shaft of the femur, including the hip, curetted the ilium extensively, but was able to leave a considerable portion of the periostium, and put on extension, making the attempt without very much hope of saving the leg. The treatment covered a period of two years in the hospital, finally resulting in a sound leg upon which the young man can walk with an extension of six inches on his shoe. He was not able, from his pecuniary condition, to purchase at any time

an extension splint, and consequently it was necessary to keep him in bed with a Buck's extension applied until the wound had entirely healed, and a new artificial joint was established by passive movements. So if it is possible to have an operation of this kind under a proper hospital condition where they can be properly dressed and cared for, I would not despair, no matter how much destruction of the femur may have occurred, in eventually giving these cases a useful joint and limb.

W. A. Spitzley, Detroit: There is no question when you have a focus of infection, and breaking down of the tissue and discharge, that the drainage is often not at all satisfactory by natural processes. It is here we ought to institute drainage.

I certainly endorse the statement of Dr. Taylor relating to preventing trouble when he has infection. I think, however, we should take into account the difficulty that has not been specifically mentioned, that is the presence of the broken tuberculous material which we know contains a small amount of active bacilli, and the danger there is from secondary infection taking place. The simple drainage that often comes through the sinuses formed by the natural process, if insufficient, should be supplemented and should be helped by free incision and free drainage.

H. W. Yates, Detroit: I should like to mention one or two things with reference to the question of diagnosis, which I was sorry was not dwelt upon more in detail in the paper. I congratulate the essayist on the report of the case which had so satisfactory an ending. I believe the case that Dr. Dodge mentioned is a credit to his skill, and he should be congratulated upon the result.

Many of the cases that go on to this extent and have a fatal termination are not reported.

What I would like to call attention to is the list of symptoms that was shown in the doctor's paper, taken from Senn's book, putting pain last. Now, in these tuberculous cases, many times pain is the last, and pain is often only an insignificant factor. I believe that Dr. Senn had a motive in putting pain last in hip joint disease. Very many times in early stages we have no pain in the hip whatever. We see a child in the early days of hip joint disease getting up in the morning with difficulty, walking along stiff. These symptoms do not attract attention from the parents until the stiffness becomes more marked and

permanent tissue changes have resulted. Children have growing pains, the parents say, and in a little while, a month or two, the child seems to be all right, but there is a tendency to recur to this same condition. So I would call attention to these latter manifestations, because there is only one in I think six cases that ever recovers. In the recognition of this early hip joint condition the early symptoms are the important ones.

E. C. Taylor, Jackson: There are but two or three points brought out in the discussion about which I care to refer: First—I have endeavored to make clear that by "early operation" I referred only to those cases where the disease had reached that stage where to the experienced surgeon it was clearly apparent that operation would probably be necessary, and in such cases it was better to operate early rather than defer. I have personally had several of these cases come to me with the disease so far advanced that pus was discharging through one or more sinuses and yet a correct diagnosis had not yet been made. Operation being performed at once, while not "early" in the progress of the disease, was "early" after diagnosis had been made.

As to the early symptoms of the disease I purposely refrained from making mention of them, hoping these points would be brought out in the discussion, as they have been. As has been very properly suggested in reference to the early seat of pain being in the knee, I want to go further than the doctor has and say it is always in the region of the knee joint. I have never seen an exception in the early stages, hence my criticism of the classification made by Senn of not placing "pain" earlier in the classified list of symptoms. His reference to the appearance of "pain" probably refers to pain in the hip which comes much later.

I would like to refer also to one diagnostic feature which I have ever found reliable in settling the diagnosis. Strip the little patient and place him on a table flat on his back. A careful examination will show that the posterior aspect of the leg in the region of the knee on the affected side does not come down as flat on the surface of the table as the opposite side. Now grasp the leg with both hands, one above and the other below the patella, and quickly force it flat upon the table, and if hip disease exists the hip will perceptibly fly up from the table. I think you can always rely upon this proof of the existence or non-existence of this disease.

THE PREVENTION OF DRUG HABITS.*

W. J. WILSON, JR.,
Detroit.

Man is a creature of habit. An act once performed is repeated more easily in almost any line of human activity, especially when there is any pleasure derived from its repetition. It is no wonder then that from time immemorial men have used certain drugs whose pleasure however momentary has been sufficient to shut out from view the certain dire consequences. Many of these habits have become so much a part of our civilization, they are so inwoven with life in its various manifestations, that it is useless to consider how we might prevent them without becoming involved in what might be for the most part profitless discussion. There are some, however, which are just making their advent among us and concerning which it should not be difficult for men of all shades of opinion to unite. Such are the habits of using opium and its various preparations, cocaine, chloral, chloroform, ether, and the coal tar products.

That these drug habits are on the increase and that they can be in great measure controlled, is manifest. How they are acquired, then, is a very pertinent question. The demi monde as a class are addicted to these vices. They and their associates are responsible in no small degree for spreading these habits among the members of the lower classes, who quickly pass on the knowledge even to such as do not frequent places of questionable repute.

Such a condition of affairs would not be possible, however, were it not that the natural distributors of such articles, the drug trade, were not lax either in their methods of doing business or were morally unable to resist the temptation to make a little money at the expense of human life. That such is the case is very easily proven, for do we not see advertisements of morphine pills at cut rate prices in the dailies of the metropolis of this State, and druggists who do not sell cocaine except on a physician's prescription are very often asked for this drug, the person stating that they get it right along at such and such a store. When it can not be secured in the pure state, certain catarrh remedies on the market are made use of to satisfy the awful craving which makes life absolutely unbearable to the habitue.

The physician can at times be justly accused of having allowed the patient to acquire one of these habits, permitting the person to know what he is taking, or instructing him to get the drug and use it in a certain way. One person with whom I have come in touch acquired the morphine habit in a mild form as the result of her physician supplying her a hypodermic syringe and tablets to use in a case of sciatica, as she lived some miles from his office in the country. Lately, as I was calling on a patient suffering from biliary colic, she informed me that this was a specially bad attack as inhalation of chloroform had been ineffectual, adding that a former physician had instructed her to get some at the druggist's

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and inhale the vapor from a few drops placed on the handkerchief. In a neurotic individual, this might easily have been the means of the formation of the habit. Prescriptions containing any of this class of drugs should be strictly non-repetatur.

The solution of the problem of prophylaxis in these cases is not difficult. Concerning the physician, he must first be educated, to see the grave responsibility which he assumes when he acquaints his patients with the fact that he is using a narcotic in any shape whatever, and he should never use them on his own person except on the order of a brother practitioner. No matter how great the provocation, a hypodermic syringe should never be handed to a patient for his own use, and the inhalation of chloroform and ether should never be allowed without the presence of the physician, and the poisonous character of these drugs should be thoroughly impressed on all patients. The day is certainly coming, when there will be no refilling of prescriptions without a new order from a physician, and we should do all to hasten the day, by securing this in these cases.

Concerning the responsibility of the pharmacist, we are glad to say that the leaders in that line have been at work a number of years on this problem, and that as a result of their labors, many States have on their statute books good anti-narcotic laws. The Beal anti-narcotic law has been used as a model in framing some such laws, the provisions of which are as follows:

A BILL.*

To provide against the evils resulting from the traffic in certain narcotic drugs, and to regulate the sale thereof.

Be it enacted by the General Assembly of the State of _____.

SECTION 1. That it shall be unlawful for any person, firm, or corporation to sell, furnish, or give away any cocaine, salts of cocaine, or preparations containing any cocaine or salts of cocaine, or any morphine, salts of morphine, or preparations containing any morphine or salts of morphine, or any opium or preparations containing opium, or any chloral hydrate or preparations containing chloral hydrate, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, dentistry, or veterinary medicine, which order or prescription shall be dated and shall contain the name of the person for whom prescribed, or if ordered by a practitioner of veterinary medicine, shall state the kind of animal for which ordered, and shall be signed by the person giving the prescription or order. Such written order or prescription shall be permanently retained on file by the person, firm, or corporation who shall compound or dispense the articles ordered or prescribed, and it shall not be recompounded or dispensed a second time, except upon the written order of the original prescriber.

Provided, however, that the above provisions shall not apply to preparations containing not more than two grains of opium, or not more than one-eighth grain of morphine, or not more than two grains of chloral hydrate, or not more than one-sixteenth grain of cocaine, in one fluidounce, or if a solid preparation in one avoirdupois ounce. Provided also that the above provisions shall not apply to preparations recommended in good faith for diarrhea and cholera, each bottle or package of which is accompanied by specific directions for use, and a caution against habitual use, nor to liniments or ointments when plainly labeled "for external use only." And provided further that the above provisions shall not apply to sales at wholesale by jobbers, wholesalers and manufacturers to retail druggists, nor to sales at retail by retail druggists to regular practitioners of medicine, dentistry, or veterinary medicine, nor to sales made to manufacturers of proprietary or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific or public institutions.

SECTION 2. It shall be unlawful for any practitioner of medicine, dentistry or veterinary medicine to furnish to or to prescribe for the use of any habitual user of the same any cocaine or morphine, or any salt or compound of cocaine or morphine, or any preparation containing cocaine or morphine or their salts, or any opium or

*As printed in *The Bulletin of Pharmacy*.

chloral hydrate, or any preparations containing opium or chloral hydrate. And it shall also be unlawful for any practitioner of dentistry to prescribe any of the foregoing substances for any person not under his treatment in the regular line of his profession, or for any practitioner of veterinary medicine to prescribe any of the foregoing substances for the use of any human being.

Provided, however, that the provisions of this section shall not be construed to prevent any lawfully authorized practitioner of medicine from prescribing in good faith for the use of any habitual user of narcotic drugs such substances as he may deem necessary for the treatment of such habit.

SECTION 3. Any person who shall knowingly violate any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction for the first offense shall be fined not less than \$25.00 nor more than \$50.00, and upon conviction for a second offense shall be fined not less than \$50.00 nor more than \$100.00, and upon conviction for a third and all subsequent offenses shall be fined not less than \$100.00 nor more than \$200.00, and shall be imprisoned in the county jail for not more than six months. It shall be the duty of the Grand Jury to make presentments for violations of this act.

SECTION 4. This act shall take effect, and be in force from and after the ——— day of ——— 19—.

We should then seek to gain for Michigan the distinction of standing well to the front in this matter and should encourage the Michigan Pharmaceutical Association to have presented at the next legislature a bill of this kind, and the loyal and enthusiastic support of our legislative committee should be assured them. Individually we should use our influence with our friends in the drug trade, and should see to it that none of our prescriptions go to pharmacists who traffic in human blood by selling these articles indiscriminately.

DISCUSSION.

Wm. M. Edwards, Kalamazoo: Dr. Wilson's admirable paper has brought to our attention an evil that certainly needs to be corrected, that is the sale by druggists of mor-

phine, cocaine and similar drugs to the laity. In the Michigan Asylum for the Insane at Kalamazoo, with which I am connected, we have frequently, almost constantly, some person under treatment who is given to drug or alcohol addiction and I am satisfied from my knowledge of such cases that it is a very easy thing for these people to obtain the drugs. We once had a patient in the asylum whose husband came to visit her, took her out to drive, stopped in front of a drug store and allowed her to go in unattended and gave her fifty cents with which to buy something. She bought a drachm bottle of morphine, brought it to the institution and took it to the ward, gave a portion to her intimate friend and took a considerable part herself. I cite that instance to show how easy it is for a patient in the asylum when free from the supervision of the nurse or officer to obtain drugs of this character. The druggist apparently did not hesitate to sell it to her without knowing for what purpose she bought it. I am thoroughly satisfied that some efficient law such as has been proposed, and calling the attention of the druggists themselves to these matters, would do much toward eliminating the sale of these narcotics, the use of which grows so rapidly and insidiously upon the patient and is so destructive of his self from whatever standpoint we regard it. We have had in the asylum as patients several physicians who have been addicted to the use of morphine and two or three who have been slaves to cocaine. In these cases the drug has usually been stopped rather abruptly when the patient was admitted and they have done well without any morphine, even when they had been daily taking quite a large amount. A dry-goods merchant, who took a quart of whiskey every morning before he went to his business at 9 or 10 o'clock, concluded that this was a reprehensible habit and quit it, but took up in its stead the use of morphine, and very soon, according to his medical attendant, whose integrity is unquestioned, was taking 200 grains of morphine per day. This patient was taken to Hartford, Connecticut, to the institution of which Dr. T. D. Crothers is superintendent. Here he soon became actively insane with delusions of persecution and marked hallucinations. He was brought to the Michigan asylum and was not given any morphine, and as I recall the case did not suffer either collapse or any bad symptoms. In

a number of other cases that I have in mind the drug has been withdrawn quite abruptly without any serious or untoward results.

The doctor's paper offers some excellent suggestions as to the best means of preventing drug addiction. Strength of mind and character in the individual is one of the most potent and powerful factors in its prevention, but the next best thing, or perhaps the better thing, is to prevent the indiscriminate sale of morphine, cocaine and such like drugs.

William E. Bessey, Grand Rapids: The doctor's paper brings up a social evil of great importance, for which our profession is very largely to blame, especially so with a large class of patients who are neurotics or neurasthenics. At one time it was quite a common thing for members of our profession to go out armed and on a still hunt with their hypodermic syringes, loaded, ready to give a hypodermic of morphine in every case whenever there was pain. Let such a person get the idea into their mind that they can get relief from pain with such pleasurable sensations, and they will always want that injection for their pains, and they will have the pain (or pretend to have it) when they have no real pain at all. Thus you create the habit. They call for the doctor who is willing to give it, but finally the doctor refuses them, and then they will get it themselves, if they can. We are reprehensible when we thoughtlessly encourage it in that way.

I had a case recently here in which a woman wanted morphine injections, pretending to have pain in the ovary, to whom I said, "We had better allay the inflammation first and never mind the pain—that will subside of itself," but she persisted in her demands for morphine for two or three days, and then, in my absence, sent for another physician, who gave her morphine hypodermics and kept on doing so for four months, during which time she still had the pain whenever she wanted more morphine. But finally her husband stopped this thing, and I was sent for again, and found out that it was simply a trick to get this morphine injection; I put her on other treatment. She is now using the glycerophosphates, nuxvomica, iron, etc., to tone her up. I am trying to get her back to her normal condition and I am succeeding. Now morphine produces an anemic condition of the brain cells, and of the nerve centers of the body, and that anemic

condition admits of being stimulated and consequently that produces a craze, and people are victims of the craze that produces a want that they think they must have morphine. Gentlemen, we must not produce it recklessly—it is bad enough when it is the result of an imperative necessity for the administration of the drug in urgent cases.

With regard to the drink habit. I once knew of a man who said he had a toothache and got his friends to send for a quart of whiskey for the toothache, and within a few days he had to send for more; of course it wouldn't last, but it was always a mere subterfuge or pretense. They are as cunning as possible, and the doctor from the asylum will bear me out that they will resort to any strategy whatever to procure it. Give a good wholesome tonic of glycerophosphates of iron, quinine and strychnine, give them good wholesome food, and stop the administration of narcotics, just to please the whims of such people and just to relieve a pretended pain.

There are people who peddle suppositories for female weaknesses and these suppositories contain a large quantity of morphine, and apparently the morphine is what creates the demand. We ought to put our foot upon people buying these things, and in every way possible try to get along without encouraging the use of the narcotics or anything that would create a drug habit.

The subject is so deeply interesting, and it affects the community to such an alarming extent, that one could talk a week on the subject and not exhaust it. We as a profession ought to do everything else rather than use a narcotic, and if we do use them, use them without the patient's knowledge. Don't let them know you are using morphine or cocaine, chloral hydrate or cannabis indica, for if they find out what you are using the chances are they will try to get it for themselves and will get the idea they must have it to live, and you have created in them the drug habit, the very thing you don't want to do. There is no use crying out against an evil and at the same time every day add to that evil by prescribing narcotics in our desire to please the patient. Let us take every means that is fair, without pandering to this insatiable desire. Owing at the present time to the general neurosthenic conditions that prevail in these times, particularly in American society (for it is a nervous country,

and we have neurasthenic conditions prevailing, a tendency or proneness to neurotic conditions everywhere) and the narcotics seem to supply the want and a drug habit is created, and we have that thing to contend with. What should we do? Should we not exert our influence against it? Let us do what we can, conscientiously, and not, either by inadvertence or intention, add to the number of victims to these enslaving drug habits, of which we may truly say with Shakespeare "O, thou accursed fiend, if thou has't no other name to call thee by, let's call thee Devil!"

W. A. Ferguson, Sturgis: The discussion so far has been interesting to me. There is one other condition that might be mentioned. If a man wants liquor in a certain amount he must go to a physician and get a prescription, otherwise the druggist says "I cannot let you have it." Yet to-day the drug habit is leaving its mark in this country almost as strongly as drink. The legislatures of the different states have had their attention called to the effect of the evil of drinking to the extent of passing a law requiring the purchaser to go to a physician and get his endorsement. Now I believe that it is the duty of this State Society, as a society, to select a committee and draw up a line of resolutions in regard to the framing of a particular law that will act as a preventive in this matter, so that the legislature of our state will in time pass a law that will impose just as rigid restriction in regard to dispensing drugs to the common people as it has in dispensing a pint of liquor. To the ordinary person certain drugs are just as dangerous and, in many cases, more dangerous, than liquor, yet to-day we have restrictions upon liquor but not upon drugs. I believe the State Society, as a society, should select a committee to draw up a line of resolutions bearing upon the evils of these things, certifying who shall be the ones to dictate their use and certifying to what extent they should be used. The physician should be held responsible. If he is found to be a criminal in the matter they should prosecute him.

J. H. Reed, Battle Creek: I have a great many cases of diabetes to take care of, and it is the unfortunate rule all over this great country of ours, the very minute a person is depressed he hits upon codein or morphine

and the result is that a bad physiological condition is established in addition to the drug habit. I have had on many occasions patients come to me suffering from diabetes and their great desire was to continue this drug habit. They begged and pleaded with me to give them not only the same doses they had been taking, but larger ones. I have had to take measures to prevent them from getting it. I also wish to condemn the habit altogether of giving morphine either by stomach or by injection. It is a habit that is easily formed by physicians, and it is not so easy to resist the temptation in order to allay pain at times. As far as I am individually concerned in my own practice I have not given a dose of morphine either by stomach or by injection for the relief of pain in at least two years. I give a great many injections of saline and other alkaline solutions. I have been able to discharge such patients as I have been able to discharge, freed at least from the habit, if not entirely cured of the original trouble.

Another thing I wish to speak of. I wish to commend to your special attention the idea promulgated by the doctor in his paper that we should do something as an Association to bring before our representatives a bill which will to a great extent restrict the general use of these narcotics. For instance I pick up a paper, a reputable journal in which comments are made upon some concern in California who sell a morphine tablet warranted to have eliminated from it all poisonous or toxic substances, and at the same time to give the usual exhilarating effects and relief obtained from morphine. This was endorsed by three different physicians in a long testimonial. I will say, however, I took the trouble to look up in the medical register all three of these physicians used in the testimonial for this drug, and I found that none of the three appeared in the register. So let us hope for the benefit of our profession that this was one of the kind of testimonials that are bought by the bushel basket by many of the advertising institutions in our larger cities. I hope, with the doctor, that this may become a law and that the use of morphine in this direction may be restricted.

GASTROPTOSIS—DILATATION AND PROLAPSE OF
THE STOMACH.*W. E. NEWARK,
Charlotte.

Gastroptosis, with dilatation and prolapse of the stomach, is a much more common affection than was formerly supposed. In the gastro-diaphane we have a very important means of diagnosis.

Etiology: Improper early feeding of children is one of the most important and frequent causes of gastroptosis. Some mothers give the child all the milk it can drink or all the food it can wash down, without even a thought of the effect of the food upon the child, or whether it is the kind of food the child needs. Some children are allowed to eat rapidly, to partake of large quantities of indigestible food. Eating at all hours always gives trouble. Another etiologic factor is insufficient exercise. Because of this, the stomach walls and the abdominal muscles are not well developed. Among the many other causes of this trouble may be mentioned the excessive drinking of large quantities of beer, ale and the like beverages; malignant growths, ulcers and the thickening of the muscular walls of the pylorus; weakening of nerve forces; atonic conditions, etc.

Symptoms: A dragging down sensation in the abdomen, and the frequent vomiting of large quantities of sour, partly decomposed, undigested food, at intervals of two or three days, are symptoms that would lead one to suspect a prolapsed stomach. Since the muscular walls of the stomach are weak, it is a physical

impossibility for it to empty itself except by vomiting. The patient will complain of dizziness after meals and the belching up large quantities of gas. Physical examination will show emaciation, a sallow skin, an enlarged abdomen and tenderness over the stomach and liver. The bowels may be loose a few days and then constipated and the patient expresses himself or herself as being bilious. Many nervous symptoms will arise.

The blood takes up the toxic products formed in the stomach. The food will sometimes remain in this organ several days before it is vomited. When ejected, it will be sour and will contain bacteria, undigested food, lactic and butyric acids and large quantities of gas.

Thirst causes these cases to drink large amounts of liquids. More or less pain accompanies these troubles. Pressure against the pericardium may disturb the heart's action while pressure on the diaphragm may be the cause of a hacking cough. The pelvic organs may be also displaced by the abdominal distention.

A feeling of lassitude from the improper digestion will accompany these chronic cases.

Diagnosis: The left side of the abdomen will protrude more than the right side. The abdominal muscles will be seen to be flabby and relaxed. The patient will perhaps get along for several days. Then he or she will vomit excessive quantities of food, more in quantity than has been taken in several meals. The odor of the vomitus is characteristic.

*Read before the Section on General Medicine at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 25, 1904, and approved for publication by the Committee on Publication of the Council.

Fermentative changes in the food taken will be noticed. Large amounts of gas escape from time to time from the rectum and by mouth.

By succussion we will hear fluids splash in the stomach. By inflating the stomach by means of bicarbonate of soda and tartaric acid the gastric area can be marked out. A test-meal will show us the digestive capacity of the stomach, the amount of acids present, bacteria, etc. The gastro-diaphane is a great aid to the stomach specialist. The presence of the electric light in the stomach tells us the size of this organ and its position. A tumor in the anterior wall of the stomach will show as a dark area.

If there is a pyloric stenosis, the body of the stomach may be distended until it feels like a hard tumor. In gastric ulcer there will be more or less blood in the vomit.

Treatment: This is the most important part of my subject. Hydro-therapy, electro-therapy and dietetics are growing in favor both among the laity and among the medical profession. In gastroptosis, with dilatation and prolapse, we must first remove the inflammation and tenderness before we can manipulate the organ. This can best be done by applying large fomentations over the stomach. These should be applied one-half hour after each meal. The duration of each application is twenty minutes. Unquestionably a dry diet, as zwieback or toast, is best.

Each morning the stomach should be washed out, using some antiseptic, as listerine or soda-bicarbonate. The mouth should be carefully washed and the teeth kept clean and in good condition. All food must be chewed thoroughly. This not only prepares the food for digestion but promotes the flow of saliva. My

practice after using the lavage tube a few times is to give a test-meal. Withdraw contents in one hour and make a chemical analysis to be sure in what way digestion is altered. It is very important to know what acids are secreted and what foods are digested.

To tone up the muscles, order a cold sponge bath mornings or a cold plunge bath, if the patient is young and reacts well. Occasional sweat baths are needed to rid the system of toxic poisons. To strengthen the abdominal muscles proper breathing exercises should be taught.

Galvanism should be used once a day. This is a valuable treatment to strengthen the nerves and to control secretions. These latter can be increased or decreased at will. Place the positive pad (6 by 8 inches in size) over the stomach and the negative over the middle dorsal vertebra. Turn on from eight to ten milliamperes for ten minutes. This will lessen the secretions of fluid in the stomach.

Then use the Faradic current with electrodes in the same position. Use as strong a current as patient will bear for ten minutes. On alternate days I use a small electrode over the motor points of the stomach and abdomen, making the muscles contract vigorously. Proper massage is also very useful in toning up the muscles and increasing the peristaltic action of the stomach.

Place the patient on his back on a hard table, with legs flexed, hips elevated, abdominal muscles relaxed. Stand on the right side of your patient. Place the right hand firmly on the left inguinal region and have patient take full inspiration. During expiration press firmly backwards and upwards with the hand and fingers in such a manner as to lift the stomach to its normal position. Re-

peat this process several times. General friction and kneading should also be given. For neurotic conditions nothing will tone up the nerves as well as static electricity. Give the static positive head breeze twenty minutes daily in cases of insomnia or where the patient is suffering from melancholy. Give the positive spinal breeze with some sparks as a tonic for the sympathetic system. Teach the patient to be regular in his habits and to look on the best side of life.

Drugs are of little benefit. Nuxvomica may be used as a nerve tonic, bismuth and charcoal to stop fermentation, and aromatic cascara to keep the bowels loose. These are about all the medicines needed. A proper diet and the keeping the stomach clean is a much more rational treatment than to rely on pepsin and cathartics. Children should be taught to eat slowly and to chew the food thoroughly. We as physicians prescribe too much and teach too little. In order to be well one must have a good digestion. We eat too much and too rapidly. If we would have a strong body, and a clear mind, we must choose our food with care and study the laws of mastication and digestion. We must eat to live and not live to eat. We must cultivate a cheerful disposition. Laugh and grow fat is a good axiom.

A physician must teach these principles if he would cure chronic cases. Much time and patience is needed. If a physician has not the time to properly treat this class of cases, he should not assume charge of them. Patients will have relief. If the busy physician does not do them justice, they will resort to patent medicines and the various nostrums. Can we blame them?

DISCUSSION.

H. O. Walker, Detroit: Gastroptosis, as has already been stated by the writer, is of very great frequency. At the same time he did not take into consideration the possible ptosis of the other organs and contents of the abdominal cavity. An experience of opening the abdominal cavity a great many times teaches us that certain symptoms can be due to one or the other of these conditions. I did not hear the doctor mention anything about the much vaunted support of the abdominal wall with trusses. Gastroptosis and dilatation of the stomach are somewhat different. You may have a dilatation of the stomach without gastroptosis and you can have it with gastroptosis. Symptoms arising from gastroptosis such as an accumulation of food in the stomach causing pyloric kinking with its accompanying fermentation, etc., are common evidences of the difficulty. Patients, after they get to bed and lie down, are able to relieve themselves of the distressing symptoms, and I know of a number of cases where the most comfortable position they could get into was lying on an inclined plane with the feet up, in that way the stomach would become emptied and relieved. In gastroptosis food may be carried in the stomach for a long time. I have known of instances where that was determined from an examination of the contents that had been eaten two weeks before.

The doctor made no mention of surgical treatment of gastroptosis. The general treatment, dietetic, etc., is all right and proper and should be resorted to, but at the same time in many of these cases you fail to relieve by any such treatment. Then comes the time when much can be done to relieve his condition. Washing out the stomach is only a temporary expedient, but does not cure. The mechanical contrivance of a gastro-enterostomy will do the work. I reported two years ago at Kansas City, at the meeting of the Mississippi Valley Medical Association, a number of cases that I had operated upon by this method with very good results. I call to mind one case that I operated upon a while ago of a woman who had been a victim twelve years to this trouble. She was extremely emaciated and a confirmed neuresthenic. She would get along for several days and do pretty well, and all of a sudden would vomit up a quart or more of foetid material. Her physician who had her under charge knew something of the work I was

doing in this direction and had her see me. We saw her together with a neurologist, and after examining her there was no question what this woman had. She had marked gastropnoxis; we could easily distinguish the splashing sound below the umbilicus. The nicest way to determine gastropnoxis is to introduce a stomach tube and inject air through it, when the outline of the stomach can be readily determined. In comparison, it is better than the electric light, which looks pretty but it is not as accurate as you get it by the distention with air; air will do it; you do not need to use any chemical. This woman is practically cured. I could relate a number of cases that have been benefited by this surgical procedure. You simply make a sewer from the stomach into the small intestine and let the contents out.

My gastro-enterostomies have been made by the McGraw elastic ligature.

W. E. Bessey, Grand Rapids: In regard to the remedy this gentleman spoke of and the use of a remedy in dilatation of the stomach. I wish to speak of one that is a tonic to involuntary muscle fibres. It is valuable in all cases of dilatation of the heart, stomach or uterus because it tones up the sympathetic

nervous system (which gives tone to all the functional organs)—I refer to the active principle of Black Cohosh, or *Cimicifuga Racemosa*—*Cimicifugin* — which—combined with *nux vomica*—is a most wonderful permanent tonic to the involuntary muscles. Ergot is spasmodic in its action. This is a continuous tonic, (it is not spasmodic) It is also sedative or calmative and removes the irritability so often found present in weak conditions of the hollow muscular organs. Those who have not used it will be surprised at the good effect it will have in all relaxed muscular organs. I merely mention this incidentally, but do not wish to take up any time discussing it at any length. However, I may say that the active principle in it is a gum; you cannot use an extract such as Parke, Davis sometimes make. unless it is an alcoholic extract, then it is all right; if it is a watery extract it will not extract the gum, therefore the tincture or the alcoholic extract is the only thing in which you get the active principal *cimicifugin* so that it has any value whatever as a therapeutic agent and then you have a remedy that is invaluable in just such a tonic relaxed and irritable conditions of the hollow muscular organs.

LARYNGEAL COMPLICATIONS OF TYPHOID FEVER.*

W. L. WILSON,
St. Joseph, Michigan.

The title of this paper was suggested to me by the difficulty I had in finding any literature on the subject while I was treating three cases of typhoid fever, followed by laryngeal complications. These three cases all occurred within a few weeks of each other, although I had never before, nor have I since, seen laryngeal complications following in the wake of typhoid fever.

Text books on the practice of medicine and even works on laryngology bestow

but a passing notice upon them, so that I gained the impression that they were infrequent and unimportant. On looking into the subject more fully, however, I find that the recognition of laryngeal lesions complicating typhoid fever is not of recent origin. Louis, in 1829, refers to cases of this kind. Since that time Keen has collected 207 cases of typhoid affections of the larynx. More recently DuPuy, of New Orleans, has made extensive researches through the literature on this subject and reports 256 cases as the approximate number published during the past fiftyeight years.

*Read before the Section on General Medicine at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 27, 1904, and approved for publication by the Committee on Publication of the Council.

Surely this number of cases, of a complication always grave and very frequently fatal, proves that the laryngeal affections of typhoid fever deserve more than a passing notice. Statistics show that from 11 to 26 per cent. of all fatal complications are due to affections of the larynx. There is a difference of opinion as to the true nature of these affections and their cause. The majority of observers are of the opinion that they are true typhoid lesions, identical with those of Peyer's patches, and that there is a true metastasis of the poison to the lymphoid tissue of the larynx; but since typhoid is a polymorphous disease, showing a predilection for lymphatic tissue wherever distributed, it may be possible to have a primary localization of the disease in the adenoid deposits of the larynx. Several cases of this kind have been reported. While in most cases these affections are caused by the Eberth bacillus and its toxins, they may sometimes be of pyogenic or of streptococcic origin.

Dorsal decubitus is considered a predisposing factor. The effect of gravity, leading to venous stasis and softening of tissues along the posterior wall of the larynx, might result in abrasions of these parts, thus permitting the entrance of infecting organisms.

Pathologically, these affections may be grouped into three varieties: (1), submucous laryngitis with involvement of the deeper tissues; (2), ulcerative laryngitis; (3) laryngeal perichondritis. Practically it is difficult to separate these forms as one may overlap the other. Perichondritis followed by necrosis of the cartilages is the most frequent form of laryngeal complication and the cricoid is most frequently involved.

Ulcerations appear next in frequency and may precede or follow the perichondritis. These may be true typhoid lesions or may be due to secondary infection by any of the pyococci.

These ulcerations show a marked predilection for the posterior laryngeal surfaces and are most likely to be found in the lymphoid deposits of the larynx, situated more especially at the base of the arytenoids, posterior plate of the cricoid and in the ventricular bands. Oedema of the larynx may exist with either of the above forms or may occur without any involvement of the deeper parts. The laryngeal invasion occurs in the most insidious manner; a mild grade of inflammation being followed by a stenosis which means a struggle with death. The onset is usually during convalescence but may occur during the third week. The initial symptoms are simply hoarseness, some difficulty of breathing and possibly of swallowing, and slight cough, and may be attributed to the patient's weakened condition until the supervention of dyspnoea awakens the mind of the attendant to the gravity of the case.

In cases of perichondritis, where pus has formed, there are of course in addition the symptoms of septic infection, rapid pulse, chills, fever and sweats. In the milder forms of inflammation, sprays of soothing and astringent properties, steam inhalations of menthol in tincture benzoin compound, adrenalin chloride and cocaine sprayed into the larynx, may be sufficient, but when stenosis once sets in, tracheotomy is the only resort. Intubation is not practicable in the majority of cases. The mortality in any event is high in these cases, but the favorable results which follow operative interference offer such a contrast to the high mortality

without operation, that there can be no doubt of its propriety.

I will here give a brief outline of three cases which have occurred in my own practice. The first case was that of a young soldier twenty-three years of age who had been sick with malarial fever in Cuba for three weeks before coming home. Two weeks after his return, he was stricken with a well marked and very severe attack of typhoid fever. The temperature ran unusually high, there was a profuse diarrhoea and the nervous symptoms were particularly marked. There was active delirium, requiring restraint, followed by low muttering delirium, carphologia and subsultus tendinum. During the second week an extensive bronchitis set in and continued throughout the course of the fever. About the twenty-eighth day there was a slight remission but the temperature still kept quite high and did not touch the normal point until the thirty-eighth day. During the seventh week he complained of sore throat and hoarseness, but the bronchitis had disappeared. Examination showed the mucous membrane of the larynx inflamed and swollen, and the vocal cords reddened. The soreness continued in spite of sedative and astringent remedies and was now accompanied by rapid pulse and profuse sweats and increasing dyspnoea. As the dyspnoea grew worse, I called Dr. B. in consultation. Examination showed the larynx congested and some swelling of the lateral walls above the glottis, but the main obstruction appeared to be beneath the glottis. I lanced the swollen parts above the glottis, but with no result. We then concluded that tracheotomy was the only resort, but upon returning to the room we found that in our absence the patient had coughed up some foetid pus

and seemed greatly relieved, so much so that we decided not to operate at that time. On visiting him next morning, however, I found his breathing worse again. The pus he had coughed up came from the place I had scarified above the glottis, while the main collection was beneath and beyond reach from above. On again consulting with Dr. B. we concluded to perform tracheotomy at once and without giving any anæsthetic. The patient struggled so hard however that we found it impossible to do so and were obliged to give him enough to quiet him. Just as I cut into the trachea he ceased breathing and all efforts to restore respiration proved unavailing and he died on the fifty-seventh day from the time of taking to his bed.

On opening the larynx after his death and cutting down through the perichondrium, there was a discharge of about a teaspoonful of foetid pus, and the posterior part of the cricoid was found to be necrosed.

The second case was that of a street railroad conductor, aged 30 years. The fever in this case was also of a very severe type and the nervous symptoms were very prominent. During the whole course of the fever there was an extensive bronchitis.

The temperature reached normal on the twenty-eight day, but the cough still continued severe and he complained of sore throat and hoarseness. During the next two weeks he gained in strength, but the sore throat still continued in spite of all measures to relieve it.

Examination showed the walls of the larynx and the ventricular bands inflamed and swollen, and the vocal cords congested.

On the forty-second day I was called by telephone saying that he was choking to death. Before I reached him, however, he coughed up about a teaspoonful of pus, so that when I arrived his breathing had become easier, though still somewhat labored. He continued to cough up pus for eight days and had profuse sweats, and more or less inspiratory stridor, and on the fifty-first day of his sickness he died.

This was a case of abscess of the larynx and his extreme emaciation and weakness, together with the presence of areas of consolidation at the apices of the lungs and a tubercular history, incline me to the belief it was of tubercular origin.

The third case was that of a young lady twenty-two years of age, but was not of such a severe nature as the others.

The temperature was not high, no diarrhoea, and no severe nervous symptoms, and the fever reached normal on the eighteenth day. On the twenty-fifth day, however, I was summoned hastily, the patient being reported as choking to death. For two days previously she had complained of sore throat and hoarseness. On examination I saw it was a case of œdema of the larynx. I applied a strong solution of cocaine and scarified freely and in a short time she was breathing easier. The swelling gradually subsided under sprays of cocaine and astringents and she afterwards made an uneventful recovery.

This complication occurs more frequently than perichondritis or abscess of the larynx, but it is the only case I have ever seen in an experience covering quite a large number of cases of typhoid fever.

Study of Hemagglutinins and Hemolysins.—

Conclusions:

1. The employment of the constituents of the blood corpuscles of one species of animals, laked blood and stroma, for the injection of other species of animals, results in the production of definite specific bodies—lysin and agglutininomit.

2. In a strongly hemolytic serum, the rapid solution of the corpuscles masks the appearance of the agglutination, which may be demonstrated in preparations kept on ice at 3° Centigrade, or by the use of inactivated serum.

3. In an immune serum, capable of uniting in high dilutions with the erythrocytes originally employed, the lysis in these dilutions is frequently absent, even though agglutination takes place, owing to the lack of sufficient complement in the diluted serum. The addition of excess of complement, in the shape of fresh normal serum, always avails to cause the solution of the corpuscles in the same dilutions in which they are agglutinated.

4. Bordet's view that the stroma is responsible for the lysis and Nolf's view that the stroma is responsible for the agglutination and the laked blood for the lysis, are both confirmed by the demonstration of both agglutination and lysis from the injection of both laked blood and stroma.

5. Contrary to Van Dungern's view, the splitting up of the blood corpuscles by the use of distilled water does not result in the destruction of the substances in the corpuscle producing lysis and agglutination.

6. Finally, the phenomena of agglutination and lysis cannot be separated from each other by the injection of the constituents of the blood corpuscle; but these phenomena seem to be inseparably connected. (*The Journal of Medical Research*, May, 1904, W. W. FORD and J. T. HALSEY.)

The Dysentery Group of Bacilli.—There are at least three distinct types of bacilli which are factors in epidemic dysentery. Or we might divide them into two groups:

1. The true Shiga group.
2. The group of mannite fermenters.

This latter group is divided into two types, one fermenting mannite alone in peptone solution, and the other maltose and saccharose also.

When the agglutinating characteristics of these bacilli and their susceptibility to immune sera are studied carefully, we find that each of the three types differs from the others. Here again the mannite and maltose types, through their stimulating in animals abundant common agglutinins and immune bodies, seem more closely allied to each other than to the Shiga type. (*The Journal of Medical Research*, May, 1904, W. H. PARK, K. R. COLLINS and M. E. GOODWIN).

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Editorial

"LEST WE FORGET."

The idea seems prevalent, and apparently with reason, that the American people like to be hoodwinked. If this is not so, how can we account for the flood of circulars which almost drown our desks; circulars telling in the most wild and fanciful way how fortunes can be made by investments in absurd industrial companies; circulars telling what almost miraculous cures many of the proprietary medicines have effected; circulars showing results uniformly so good as to make the thinking one incredulous of the whole thing? These circulars often are followed up by shrewd agents and detail men who seem almost offended if the patient listener seems to doubt any of their statements. We listen, and, if wise, we hold our peace. It seems almost time for the physician to call a halt on such proceedings, for most assuredly the companies would never continue to spend their money on such things unless it paid them, and paid them well, and unless they had good support from the physician himself. It seems about time to have a little more discretion in the use of many of the so-called proprietary preparations on the market. Simply because the manufacturer gives us large samples and a handy reference book, telling just when and how to use the compound, is not an all-sufficient reason why we should do away with the

pharmacopœa and forget entirely the art of compounding our drugs to fit the given patient, particularly if the analysis of preparations shows anything like the discrepancies between published formula and therapeutic action that Harrington* found in the proprietary foods for the sick. Foods said to be capable of sustaining life in both health and disease, consisting of the predigested elements from wheat, meat, etc., and foisted upon the physician as perfect substitutes, were found to have had so small an amount of nourishing material in them as to be almost neglected, but so large an amount of alcohol as to be questionable whether it were not wise to use in their place either whiskey or heavier wines alone. Certainly these latter would be cheaper and probably as effective. Such an expose as this should call our attention to the possibility of deception in other lines. Has not the use of proprietaries gone altogether too far? Is not their use tending to make the physician but an agent for some drug manufactory, and is he not losing his skill as a prescriber? Yet the use of none of these preparations would be so bad if we were sure that we had all that the advertising agent claims for them.

The startling announcement† was recently made that in every sample of meat taken from all sorts of butcher shops in Boston there was found some preparation of sulphurous acid, undoubtedly added to improve the looks of the meat. These preparations of sulphurous acid make old meat look fresh and appetizing, though the number of bacteria is unchanged. The use of sulphurous acid

**Boston Medical and Surgical Journal*, March 12, 1903.

†*Boston Medical and Surgical Journal*, May 26, 1904.

has been very extensive abroad, in fact it is almost universal especially in the hamburg steaks, sausages and meats of this class. It was found in every analyzed sample in the Boston shops. Is it used as much in every city? Is it not time to call the attention of users to the possibility of such impurities? It is particularly so where it was known that rabbits fed with meats "preserved" with sulphurous acid invariably presented signs of nephritis. It would seem as though there was still another function for the physician to fulfill in telling his patients of some of the abuses which are perpetrated upon them by the use of food "preservatives." HARRISON D. JENKS.

THE MASTERY OF CURRENT MEDICAL LITERATURE.

Every intelligent physician reads some medical journals regularly; some read many—none all—life is too short.

Some doctors take note of facts and theories of especial interest in their work, but most read but few journals, and neglect note taking, so that what they read soon fades from memory.

All occasionally, with greater or less frequency, desire to know all that has been written on a special topic during the current year or the past few years. To secure this knowledge he may study the medical journals and books and reprints at his disposal, and get an expert to make the study in the large libraries outside his reach. This study will be greatly shortened if he has at his disposal the several indexes of this literature, and is skilled in their use. Among these are the index of the Surgeon General's Library at Washington, and the Index Medicus supplementing it.

Far less pretentious, and exhaustive, but still very useful, is "The Guide to Current Medical Literature," issued semi-annually by *The Journal of the American Medical Association*. For greater convenience *The Journal* has made a reprint and sells it for seventy-five cents yearly, appearing in July and January. This includes the titles of articles in the leading medical journals of the world—not all, but the more important. It includes an index of these titles so that they can be found in a moment. Having found where the desired articles are published it is easy to secure them. The labor of looking through a large number of volumes is saved and one gets at once at what he desires—all that has been written on a given topic within a definite period.

Certainly no student of medical literature can afford to miss securing guides to its rapid study.

Attention is directed to this matter for several reasons. Every doctor needs all possible help in his endeavor to master the constantly increasing mass of medical literature; the best methods of doing this are mastered with difficulty; organization of the profession demands that they be made available to the largest number of physicians. The one suggested commends itself for its cheapness and simplicity. Send your order to the *Association Journal* at the earliest moment for its "Guide to Current Medical Literature." Even the latest books are far behind these medical journal articles—in fact they are materials from which most medical books are constructed, at so much per page, to meet the needs of publishers rather than physicians.

THE RUSH MEMORIAL MONUMENT—ITS SIGNIFICANCE.

This monument was unveiled on June 11th, in the presence of several hundreds of physicians and Washington officials, including President Roosevelt. It stands in the grounds of the United States Naval Museum of Hygiene, and to the passer-by will direct attention to one of the heroic characters of the American Revolution.

Addresses were made by Dr. Musser, President of the American Medical Association, Dr. J. C. Wilson of Philadelphia, and President Roosevelt.

'Tis a pity that Dr. A. L. Gihon could not have lived to witness this unveiling, as with undaunted courage and tireless persistence he labored to raise the funds needed for the statue. Never was his tongue more eloquent than when pleading the cause of the memorative tablet. It seemed that the American Association had not met unless Gihon took the platform and energized each to put his hand into his pocket and deposit its contents into the hands of the Rush Monument Committee. Yet it was many years ere a sufficient sum was gathered, and the commission given the artist to design the memorial.

Dr. Wilson told the story of Rush's life in his own matchless style, making clear the elements of his power, his opportunities for service to country, and the influence of his life upon contemporaries and upon following generations. It was enough that he signed the Declaration of Independence, when that act meant his own destruction if the Revolution failed; that in all possible ways he aided the triumph of the continental armies, and the evolution of the Repub-

lic out of the existing chaos; that he looked after a large clientele; that he courageously served during devastations of the plague; that he wrote much for the education of fellow doctors; that he was undaunted in maintaining his well studied convictions. All this stamp him as a man above the ordinary, and a physician of the first rank. In being a physician he never forgot his citizenship. His manhood towered above his calling, as does that of every true man. In performing his duties as a man he never neglected those of his profession. Better than most, he preserved their proper relations.

President Roosevelt pleaded that all remember that the welfare of the Republic ultimately depends on the way in which the best citizens do their duty to the State, and insisted that we have a right to demand from the best citizens, the leaders in the professions, the zealous, intelligent and fearless performance of the ordinary duties of public life.

Pepper, Rohe and many other enthusiasts of this memorial, have passed away during the more than two decades of its erection. Unfortunately the Association met at a distant city and could not be present at the consummation of the enterprise, and by its presence testify to the sentiments of manhood and professional life which it represents.

'Twas an irony of fate that left the great promoter of the enterprise unable to adequately provide for his family. 'Tis probable that the same condition in the profession extended the period of raising the funds to so great a length. As a whole even successful physicians have little more than a good living while able to work, and so donations to erecting memorials must be taken from the little

hoard saved for the family when the doctor is dead, or for himself when crippled by infirmity or misfortune.

Physicians may become rich by: 1, inheritance; 2, marriage; 3, outside business; 4, speculation, or 5, in exceptional cases, by many large fees. If these had desired to erect the Rush Memorial they could have done so in a year, and the fact that it was so long in building proves that they did not so desire. The long period consumed in raising the funds proves that they came from the little hoards of the rank and file, and so represented larger or smaller sacrifice. The monument is built of "self sacrifice" and so typifies that which was best in Rush's life or that of any true physician.

Rush stood for the organization of our Republic. The physician of to-day has before him the organization of his profession that it may do its part in refining the Republic and making it what it should be. First, let him see that he always attends his County Society, takes with him his friends, and studies to make each meeting profitable. Let him see that the occasions of offence be removed and mutual helpfulness promoted. Then his State and National Societies will receive his persistent thought. When as "one," the hundred odd thousands of doctors in the United States unitedly, speak words of applied science, they will command attention and strengthen the Republic. As Rush and his fellows labored, suffered and dared to found the Republic, so may we to purify and ennoble it. As his life was so woven with the warp of his times as to be immortal, so may ours with our time. Rush's bronze statue may be buried in the ground, sunk in the waters, destroyed by a convulsive upheaval, but his service

to his profession and country must be a part of these while man endures. So will it be with the profession of our age. Individuals may not have bronze monuments erected to their memory, but each may be a vital part of professional organization and write himself in the imperishable deeds thereof.

THE INK AND PAPER PROBLEM.

Massachusetts has a law forbidding the making of any public record with ink unapproved by the official analyst. The ink and paper used in public records by European countries is hedged about with every precaution, that the records may last for centuries.

Plenty of books and manuscripts exist perfectly legible after the lapse of hundreds of years, and may be seen in every extensive collection of books and manuscripts and records. The unpublished records of the Michigan State Society from 1819 to 1852 are as legible as when fresh from the secretary's hands.

With the advent of cheaper inks and papers, records are found to fade in a short time, and even the paper exhibits signs of disintegration—factors of alarm in respect to all records of permanent value, so much so as to call for enactment of laws in Europe and at least in one of our states.

The colored inks are either made from aniline or other cheap transient colors, excepting the black, which is generally made from some form of tannate or galate of iron, making a firm hold on the paper fibre. The transient character of paper dates from the introduction of wood pulp in the manufacture of paper. The best papers are still made from manilla

fibre, old linen or cotton or allied material. It is hardly likely that these will have the permanence of parchment, but they will be a close second if well made.

This problem is a serious one, from whatever standpoint it may be viewed, and merits the attention of every physician. The writer has the day book of a Detroit physician practicing from 1794 to 1820 and its legibility is all that can be asked. He has also physicians' manuscripts more than half a century old, yet in as good condition as at time of writing. He has other physicians' writings of less than two decades old, which are entirely illegible and the paper so brittle as to disintegrate on slight provocation.

By directing the attention of public officials to these facts, they may secure the preservation of important town, county or state records of the highest importance. Farther, it were wise to unite in asking the legislature to enact a law prescribing the use of permanent ink and linen or cotton paper, in keeping all public records—said ink and paper to receive the approval of a public expert ere used.

DEATH OF DR. KNEELAND.

Dr. Charles J. Kneeland, of Traverse City, Mich., died June 4th at the Alma Sanitarium from organic heart disease, at the age of 58.

Dr. Kneeland's birthplace was in the western reserve of Northern Ohio. His early life was spent on a farm. Later he entered Hiram College, Ohio, where he received his preparatory education. After this he pursued his medical studies in the College of Physicians and Surgeons at Philadelphia. He came to Traverse City in 1873, where he remained until his death.

Dr. Kneeland was an active and influential worker in his profession and had acquired a lucrative practice.

He took an active part in the organization of the Grand Traverse County Medical Society, having served as its president. He was public spirited, taking a keen interest in the building up of his home city. He was interested in a financial way in several of the industries of Traverse City.

Dr. Kneeland's death will prove a direct loss and bring grief to many families all through the Grand Traverse region.

DEATH OF DR. HOSKING.

Dr. James Hosking, the secretary of the Houghton County Medical Society, died at his home at the Wolverine Mine, June 9th. He was injured in a runaway accident June 2d, while driving with his son, and sustained a fracture of the base of the skull, from the effects of which he died suddenly, after seeming to improve for a week after his injury. His funeral was held June 12th. The pall bearers, both regular and honorary, were from the Houghton County Medical Society. The Calumet Lodge of Freemasonry, the Order of Forresters of America, and the Maccabees, also sent delegations to show their respect for the deceased. Several hundred miners of the Wolverine, Mohawk, and Allouez mines were also present.

Dr. Hosking was born at Phoenix, Keewenaw County, Oct. 17, 1867, and was 37 years of age at the time of his death. He spent nearly his entire life in Houghton County, and was widely and very favorably known. He graduated from the University of Michigan in 1901,

and, after one year at the Osceola mine, was appointed physician to the Wolverine, Allouez and Mohawk mines, where he was very popular and successful. He was making his morning visits to his patients when the accident occurred. A wife and three sons survive him.

At a regular meeting of the Houghton County Medical Society, held at Calumet, Aug. 1, 1904, the following resolutions as prepared by a committee, were unanimously adopted:

Resolved, That we deeply regret and with feelings of deepest sorrow deplore the death of our late associate and worthy secretary, Dr. James Hosking, which occurred at his home, at the Wolverine mine, on June 9, 1904.

Resolved, That we desire to express to his family our sincere sympathy in this hour of their bereavement.

Resolved, That a copy of these resolutions be sent to his family and to THE JOURNAL of the State Medical Society for publication, and spread on the records of our Society.

(Signed) A. I. LAWBAUGH,
W. K. WEST,
Committee.

County Society News.

DICKINSON-IRON CO.

The Dickinson-Iron County Medical Society held its annual meeting at Vulcan, June 28, 1904.

The subject of goitre was discussed by the members:

The following case of vascular goitre was exhibited:

Patient, E. A.; age 16; male; white; American born—Swedish parents. Complains of enlargement of neck and difficulty in breathing. Family history is negative, save that a brother, eight years old, has a similar enlargement of neck. Personal history shows that the patient has had the ordinary diseases of childhood, with good re-

covery. The patient has had this enlargement of neck ever since he can remember, but for the last two or three years it has been growing noticeably. It now interferes with his breathing when he exercises. Patient is well nourished and well developed. There is no nervousness apparent and no protrusion of the eye-balls. Examination of neck shows a marked enlargement of the thyroid gland. On palpation a marked thrill is felt during the heart's systol. The mass moves with deglutition. On auscultation over the thyroid gland a loud rushing murmur is heard which is transmitted up the carotids and down into the chest, being heard as low as the third, i. c. s. on the left side. The heart is enlarged, the apex being in the preaxillary line in the fifth i. c. s. The heart's dulness is about three inches in diameter, increased toward the left. The heart beats 92 to minute. The pulse is regular, full and natural in character at the wrist, but in the temporal artery the impulse is quite diminished. The remainder of the physical examination is negative. As to treatment, it was suggested to try a solution of adrenalin chloride, beginning with 5 drops of 1/1000 solution three times a day and gradually increase the dose to 20 drops three times a day. This should be taken well diluted.

B. W. Jones, of Vulcan, reported the following case of Graves' Disease:

T. C., female, white, single, age 36 years, weight 104 pounds, height about 5 ft. 4 in.; dark complexion; living at Norway, Mich.

Family history: An uncle on her father's side died of some kind of bronchial trouble. His wife and two children died of consumption. Her mother's mother died of consumption, and also a cousin on the mother's side. Her mother has chronic bronchitis and gastric trouble, and a painful neuritis of the shoulder, and her sister has a small right-sided goitre.

I first saw the patient early in February, 1904. She complained of gastric flatulence, with constipation and pain in the right iliac region. There was no tenderness or pain on pressure; no rise of temperature. Pulse 110. She appeared to be nervous and excited, and there was trembling of the voice, eyelids and hands. The colon was loaded with hardened faeces, and she told me she had been troubled with constipation for years. I did not observe at that time that she had goitre. There was no exophthalmos, and it did not occur to me that her symptoms might be due to Graves' disease. I saw her again about the last of March. The symptoms had not improved—she was still constipated. The pulse was rapid and the appearance of nervousness had

rather increased. She still complained of pain in the right iliac region—no tenderness—no rise of temperature.

I saw her next on April 21st, when I was sent for in great haste, her case having been diagnosed by the neighbors as appendicitis. I found her in a greatly agitated condition, very badly frightened, with the idea firmly fixed in her mind that she had appendicitis and was going to die. The nervousness did not seem to be of the ordinary kind, as she could argue rationally with me, and it did not seem to be hysterical, as she could not be made to respond to suggestion. She seemed to be more scared than hurt, and nothing I could do or say relieved her fears.

She had intense pain in the right iliac region, shooting down the right thigh and around the back and hip, on the right side, but there was no tenderness on pressure, in fact pressure seemed to relieve the pain slightly. No rise of temperature; the pulse was 130 and strong. Her voice trembled so that she could hardly speak, and there was trembling of the hands and eyelids. There was slight palpitation of the heart but no heart murmurs or signs of valvular trouble. At this time I discovered that she had a small soft goitre and she told me that she had had it ever since she was a young girl but that it would sometimes disappear entirely. There was no exophthalmos.

At this time the patient was in bed for about two weeks without abatement of the symptoms, the pulse varying in frequency between 110 and 120. Pain in the right iliac, radiating down the right thigh and hip, sometimes shifting to the left iliac, when the pain would shoot down the left thigh. There was never at any time heat or swelling, and the abdomen was always soft and yielding on pressure. There was trembling of the voice, hands and eyelids, and sometimes a fine trembling of the whole abdomen. Insomnia was also a very persistent and annoying symptom. She had at this time slight attacks of nausea, occurring mostly at night; no vomiting or tenderness or other signs of gastric trouble. The bowels were constipated, but acted so readily to the use of cathartics that I found it necessary to be very cautious in their use, as her nervous symptoms were always much aggravated whenever her bowels moved too freely. She was never a hearty eater and did not complain of much loss of appetite.

After being in bed two weeks, I managed to convince her that she did not have appendicitis, and induced her to get up, when she found that she could not walk without supporting herself

by taking hold of the furniture, as her knees would suddenly give out. She now began having very annoying tingling and numb sensations in her legs and thighs, but the pain and discomfort in the right iliac began to abate, insomnia continuing as obstinately as at first.

All the other symptoms continued, with slight remission until about June 1st, when there began to be slight protrusion of the eye-balls, which has gradually increased until now. The protrusion is quite noticeable. At about the same time that the protrusion of the eye-balls became noticeable, all the other symptoms began to abate until now, June 22nd, the pulse is 78, the nervous trembling has ceased, and the pain in the iliac region has almost entirely disappeared. The numbness and tingling sensation in the legs has nearly all gone. She sleeps well and relishes her food; her bowels are regular and she is quite cheerful. The goitre has very markedly diminished in size, and she is seemingly cured, for the time at least.

WM. H. VEENBOER,
Sec'y.

LAPEER COUNTY.

The Lapeer County Medical Society held its regular meeting at Lake Pleasant, July 13, 1904.

Hal C. Wyman, of Detroit, was the guest of the Society and was elected to honorary membership in the same.

C. W. Braidwood, of Dryden, read a paper on "Pavlov's Study of the Digestive Glands."
Abstract:

The pancreas is governed by the same general laws which govern the gastric and intestinal secretions. The amount of pancreatic juice is regulated by the quantity and quality of the food ingested. Fats have, for instance, a specific action on the duodenum, causing an increased pancreatic flow and a decreased flow of the gastric juice and in the duodenum within 365 minutes causes an increase of pancreatic juice, while acid, in the stomach with the duodenum ligated, has no effect whatever on the pancreatic flow.

The mind has a controlling influence on digestion, both gastric and pancreatic. Stimulation of vagus never causes a decrease in pancreatic flow, while stimulation of the sympathetic causes an increase. Bile is continually being secreted. An acceleration in the portal circulation causes an increased flow of bile. Therefore during digestion, when there is an increased activity of the portal circulation, there is an increased flow of bile.

Intestinal juice was found by Pavlov to con-

tain a ferment called "chymaze," whose main function is to stimulate the activity of the ferments of the pancreatic juice. Pure pancreatic juice will not digest albumen but with the addition of "chymaze," digestion readily takes place. These physiological truths it behooves us to apply at the bedside.

W. J. Wall, Elba, read a paper on "Summer Diarrhoeas of Children."

Abstract:

Improper feeding is the chief etiologic factor, and occurs almost exclusively in the infant artificially fed. Improper feeding may be due to too much milk given at one time, or to too frequent feedings, or to cow's milk not properly modified. There can be no doubt that bacteria play a large share in producing this class of diarrhoeas. The bacillus of Shiga was found by Duval and Basset in 42 cases. In 25 cases, not suffering from diarrhoea, it was not found.

The treatment consists in the following: Stop the milk for 48 hours at least. Cases are cited where it was withdrawn completely for five days, when plenty of water was given, and where the children recovered. The usual method of medicinal treatment is gr. 1/10 of calomel every half hour for 10 doses, followed by castor oil. Bismuth is given in ten grain doses every two hours. Arsenite of copper gr. 1/1000, has been considered by some as almost a specific. Opium, if used at all, should be used with care and then only when the intestinal tract has been thoroughly emptied. Plenty of fresh air, light clothing, frequent baths, etc., are recommended.

J. V. Frazier, Lapeer, read a paper on "Eye Strain."

Abstract:

Eye strain is a frequent cause of headache. The typical case is one where the headache, frontal or occipital, comes on after the use of the eyes in close work. Vertigo is also in some cases caused by eye strain.

Hal C. Wyman, Detroit, read a paper on "Radical Operations for Hernia."

Abstract:

Hernia is divided into two classes—natural, where the hernia is the result of rupture of the abdominal muscles, and fascia, due to an excess of pressure in abdomen. Under this head we have the infantile hernia, which is caused by excessive crying and tight clothing. Treatment in these cases is removal of all constricting bands and suspension by shoulders, combining with this massage and proper dietetic management.

In the second class, the hernias of adults, we

find the inguinal predominating. In women who have borne children often we find the umbilical hernia as a result.

The trouble with all trusses is that they restrict free movement of the abdomen.

The only rational treatment is the radical operation or the closing up of the ring.

In most cases you will find that the gut is adherent to the peritoneal wall and will have to be gently separated before sack can be fully drawn out and tied off.

Umbilical hernia—The incision used is the transverse one. The after treatment consist of rest in bed, restricted diet, consisting of from 18 to 22 ounces in 24 hours for a patient weighing 150 pounds.

Inguinal hernia—In persons between 14 and 55 years of age, the best treatment is operation and the best operation is the simplest. Rest in bed for at least three weeks should be carried out in each case, no matter what operation is performed. This gives the muscles a chance to become thoroughly united.

The larger hernias are harder to cure. In these cases proceed as in ordinary operation, and then take a sterilized forcep and force it up from underneath the transversalis muscle. Through the muscle and through the opening drag your sack. Then proceed as in the ordinary way.

In another condition of enlarged hernia where there is insufficient tissue, dig down and cut out a V shaped piece so as to cover the opening.

Another method is by exposing the whole of Poupart's ligament.

The operation for hernia, if carried out in a cleanly manner and quickly, is almost devoid of danger.

The best material for closure in my hands has been silk.

H. E. RANDALL,
Sec'y.

MONTCALM COUNTY.

Montcalm County Medical Society held its regular quarterly meeting in Greenville, July 14, 1904.

Jay O. Nelson, of Howard City, read a paper entitled "Acute Leptomenigitis (Cerebral)."

Abstract:

Acute leptomenigitis is frequently diagnosed as typhoid fever. The absence of morning remissions, and evening exacerbations of temperature, iliac tympanites and gurgling, help one to make the diagnosis.

The disease is caused by the diplococcus in tracellularis of Weichselbaum.

Treatment:

After receiving a calomel purge the patient should have light nutritious diet. Alcohol sponging is of benefit in reducing the temperature. Opium in small repeated doses is given for restlessness. Whiskey in milk acts as a heart tonic. It may be necessary to feed the patient with enemata. Tr. Veratrum Album gtt., 3, every 4 hours, is an excellent remedy.

A. P., age 14, male. Type of rapidly growing boy exposed to heat, dust, overwork.

Sept. 3rd had to stop work and go to bed with headache, anorexia. Temperature 104, pulse 110. Would drop off into a doze while being questioned—somewhat difficult to rouse. Urine scanty, high color, no albumen. Coma came on early, and lasted for 20 days—fever running high from 102° to 104°. Pulse grew weaker. Cheyne stokes respiration became quite marked as coma continued. Tonic contraction of the masseters was a peculiar feature. During spells of yawning, though, the mouth would open widely, but upon closure the masseter contraction was re-established. Spinal muscles were tender and tense throughout. No medication seemed to have much beneficial action upon the disease itself until we used Tr. Veratrum Album, gtt. 3, every 4 hours. The improvement in cerebral condition showed so early after beginning this medicine that I certainly feel that it exerted a specific action.

Despite precautions used, a bed sore developed, and complicating lobar pneumonia of left upper lobe. Resolution took place upon seventh day, and recovery was perfect though slow. There was no resulting paralysis.

H. L. BOWER,
Sec'y.

TUSCOLA COUNTY.

The Tuscola County Medical Society held its regular meeting July 11, 1904, at Millington.

Twelve were present at the meeting.

W. C. Garvin presented a case of Hodgkin's Disease coming from the Isthmus of Tehuantepec, Mexico.

F. P. Bender read a paper on "Stone in the Bladder," reporting two cases. He presented a specimen of stone removed from one of the cases in which bees-wax, which had been introduced into the urethra, had found its way to the bladder and had become the nucleus of the stone.

W. C. Garvin read a paper on "Acute Suppurative Osteomyelitis," reporting two cases in which early operation was performed.

Abstract:

According to Senn, suppurative inflammation of

the marrow of the bone is an exceedingly frequent affection in children and young adults.

Osteomyelitis is essentially a phlegmonous inflammation of the marrow, caused by the lodgment in this tissue of pus microbes which have found their way into the circulation through the skin or mucous membrane of the lungs or the digestive tract. The disease attacks preferably the long bones near the epiphyseal lines.

Premonitory symptoms of acute suppurative osteomyelitis are sometimes noted, such as bronchial catarrh or a diarrhoea. Likewise a carbuncle or other suppurations of the skin may be looked upon as the primary lesion.

The disease proper is usually ushered in by a chill and other well known symptoms which indicate the commencement of an acute suppurative affection.

The local manifestations of the disease are pain, tenderness, swelling, redness, synovitis epiphyseolysis, and loss of function.

Acute suppurative osteomyelitis is often diagnosed and treated for other affections as rheumatism, periostitis, typhoid fever, or phlegmonous inflammations of the soft parts. It is only by a careful consideration of every feature of the clinical picture, that a correct diagnosis can be made.

In the treatment of this malady, an early and correct diagnosis is of the greatest importance. From the very nature of the disease, it is evident that the treatment is essentially surgical.

Thorough cleansing of the digestive canal by a brisk cathartic is often useful.

It is doubtful if the use of strong tincture of iodine applied to the skin, or the interosseous injection of antiseptics, have any influence in arresting or even retarding the progress of the disease.

In every case of acute suppurative osteomyelitis, the medullary cavity should be freely exposed and submitted to direct and most thorough antiseptic treatment. This should be done as soon as a positive diagnosis can be made. An early radical operation accomplishes the following:

- (1) It removes the pain.
- (2) It enables the surgeon to remove the local cause of the trouble, completely or in part.
- (3) It prevents extensive necrosis.
- (4) It is the best prophylactic measure against fatal septicemia and pyemia.
- (5) It prevents extensive destruction of the periosteum and contiguous soft parts.
- (6) It cuts short the attack and expedites recovery.

Senn divides operations for acute suppurative osteomyelitis into three classes:

(1) The early operations: Here the medullary cavity is opened for the purpose of disinfecting the primary focus before the inflammation has extended beyond the limits of the bone.

(2) The intermediate operation: This operation is performed after an extension of the supuration to the soft tissues around the bone. The object of the operation is to give free drainage by multiple incisions through the soft parts. Small openings are made into bone for the purpose of exposing its interior to antiseptic irrigation.

(3) The late operation: This is done for the removal of sequestra. It should always be postponed until the involucrum is strong enough to furnish the necessary support and until the sequestrum is completely separated.

Report of two cases:

A luncheon was served to the visitors by the Millington doctors.

W. C. GARVIN,
Sec'y.

WEXFORD COUNTY.

The Wexford County Medical Society held its regular meeting at Cadillac, August 11, 1904.

James A. King, of Manistee, read a paper on "Danger of Taxis in Strangulated Hernia," with report of eight cases:

Abstract:

The more I see of strangulated hernia, the more impressed I am with the dangers of severe or at all prolonged efforts at manipulative reduction. When a hernia is reduced without operation, you have at best only prolonged the existence of an incapacitating and maimed condition that is a constant menace to life. When operative means are employed you have cured a cripple. Like most country practitioners, I believe, I keep no case book and will refer briefly to a few cases illustrative as I recall them to memory.

Case 1.—Mrs. V. S., referred to me by a very competent physician twelve hours subsequent to strangulation. I feel confident no unusual efforts at reduction had been made. Longitudinal muscular coat of bowel was split for at least two inches and the inner circular coat protruded, making a secondary strangulation which would have soon resulted in ulceration and rupture of intestine. Suture of the torn outer coat and of abdominal walls was followed by recovery and cure.

Case 2.—W. J., brought in by parent. Father had made repeated efforts to reduce an irreducible hydrocele of the cord, following rupture. The sac being empty, no injury was done to the intestine. Possible injury was confined to abdominal wall and cord. Operation was followed by recovery and cure.

Case 3.—S. O.—Strangulation had existed eight days. Repeated efforts were made at reduction by different surgeons, as patient refused operation. When patient was referred to me, the hernia was apparently readily reducible. Symptoms of complete obstruction were marked, which I believed to be due to the hernia. Incision over internal ring developed the fact that the whole ring had been literally torn loose from the abdominal walls, ring, intestine and all being returnable into the abdominal cavity together. Liberation of the intestine and suture of abdominal walls were followed by the usual symptoms of auto-infection. The patient, however, survived for eleven days and slowly sank, apparently from the effects of the poisons absorbed during the long strangulation.

Case 4.—C.—Called two weeks after a swelling slowly appeared in scrotum, variously diagnosed by several physicians. Diagnosis: Omental Hernia. Sac in scrotum was filled with grumous, offensive discharge and a mass of decomposed omentum; adhesions had formed over the upper end of the sac, walling it off from the abdominal cavity and from the secondary sac above, which contained more omentum and a knuckle of intestine which was not strangulated. Before patient was able to be up, he contracted pneumonia, from which he died. According to the attending physician, the operation was in every way satisfactory. This case was first diagnosed as rupture, and manipulative efforts were made to reduce it. Operation then would have cured the rupture and saved the patient from a probable septic pneumonia.

Case 5.—J. J.—I was called one year prior to his operation. Case resisted all my efforts at reduction. When, after talking over the necessity of operation with his friends, he made a further effort of his own, using an amount of force unpardonable on the part of any surgeon, and succeeded. Called to operate one year later by Dr. J. Bowel was found intact, tissues bruised, doubtless the result of patient's own reckless efforts at reduction. Operation was followed by recovery and cure.

The two following cases do not illustrate the dangers of taxis, but do show the futility and

waste of time that results from postponing operation.

Case 6.—Mrs. M.—Operated on sixteen years before for fibroid. The scar of the incision reached from the pubic bone to umbilicus. The muscles had not united at all and had retracted on the left side to a line drawn parallel to the anterior iliac spine, and on the right side about two inches less. The patient was immensely fat, standing about 5 ft. 2 in. and weighing 200 pounds or more. All the intestines apparently protruded through this immense ventral hernia, and the skin and mesentery had gradually become so elongated and stretched that the hernia reached almost to her knees. The difficulties in bringing together the misplaced and the long unused abdominal muscles were almost unsurmountable, but the operation was followed by recovery and complete cure.

Case 7.—S. C.—Hernia had existed since boyhood. Irreducible. One night he was suddenly seized with pain on rising from his chair, and in a few moments the intestines and omentum began to pass through the ring into the scrotum and neighboring skin until they had apparently all passed into their new location. It is impossible to describe the monstrous deformity presented by this immense tumor. Only a dimple marked the site of the organ of copulation. Every available bit of skin had been used to keep the tumor from bursting. A surgeon, standing by before the operation, mistook the dimple, on the white shiny surface for the umbilicus. The operation was difficult; the dissection of the primary and secondary sacs took a long time and great care. I was obliged to make an opening three or four inches long above the ring to return the intestines to the abdominal cavity, and then could not get a start until I punctured the intestine and allowed gas and fecal matter to escape. Result: recovery and cure.

Case 8 is included here, because it shows a possible result of taxis in aged persons with degeneration, though the condition described was not due to manipulation in this case.

Case 8—Mrs. D.—Age 71. Umbilical hernia for many years. Several times strangulated. Arose quickly from her chair and felt intense pain, when, with a rush, intestines began to fill the sac. Dr. K. called me an hour afterward. The pressure of the intestines had dissected the skin up in all directions and dilated the sac. The tumor was the size of a child's head and skin blue. I feel positive this blueness was not due to undue manipulation for the physician in charge was a very careful man; but undue manipulation might easily produce the condition about to

be described, and serves as a warning against careless taxis. Extreme care was necessary in opening over the rupture for there was not even cellular tissue left between the skin and intestine. I know of no explanation of the tremendous pressure sometimes exerted by these large ruptures, but they will dissect up skin apparently as fast as we can do it with the fingers. I found the intestines full and blue. I punctured in several places, and there escaped a large quantity of partly digested blood. This blood came from capillary oozing in the intestinal walls. I enlarged the opening and returned the intestines, but the bleeding continued and the patient died from capillary hemorrhage of the intestines about six hours after operation. This hemorrhage was caused apparently by the violence of the pressure within the sac. The intestines within the abdomen were healthy. It might easily have been caused by undue manipulative efforts.

I have not cited near all the cases of strangulated hernia that I have operated on that tell their lesson against prolonged taxis, but my paper is already too long, and I will close, giving this as my opinion about taxis: That at best it is a very undesirable make-shift procedure; that only very gently effort under chloroform is ever safe; that the patient has usually made all the manipulation effort that is warrantable; that any force at all is dangerous with the aged and degenerate patient and that the knife and a radical cure is infinitely safer than any method of taxis ever invented.

B. H. McMullen gave a demonstration of the McGraw ligature.

S. C. MOORE,
Sec'y.

Miscellaneous.

NEWS ITEMS.

The Mississippi Valley Medical Association will hold its thirtieth annual meeting at Cincinnati, October 11, 12, 13, 1904. Dr. Hugh T. Patrick is President and Dr. Henry E. Tuley, Secretary. Dr. William J. Mayo, of Rochester, Minn., will deliver the oration in Surgery, and Dr. C. Travis Drennen, of Hot Springs, Ark., the oration in Medicine.

The White League of Pennsylvania was chartered on June 14, 1904, for the treatment of pulmonary tuberculosis among the poor. The League intends to adopt the hygienic method of

treatment. The League has a site on the eastern slope of the Allegheny Mountains (elevation of over 1,500 feet), near Glen Summit, where a permanent camp will be built. It is proposed to provide for the hopelessly ill in a healthful location, so as to afford them the comforts of life as long as they live.

Owing to the large increase in the number of pneumonic cases in New York City, Health Commissioner Darlington has invited the following men to serve on an investigating commission, whose purpose is to avoid a pneumonia epidemic in the metropolis this coming winter: Drs. William Osler, Baltimore; William H. Welsh, Baltimore; Edward A. Janeway, New York City; J. Mitchell Prudden, New York City; L. Emmett Holt, New York City; Frank Billings, Chicago; John H. Musser, Philadelphia, and Theobald Smith, Boston.

Hawaii wants the Government to help provide for the leper colony and for the scientific study of the disease. In Hawaii's leper settlement at Molokai there are 951 native Hawaiians, 34 Chinese, 10 Portuguese, 10 English and Germans, 5 Americans and 4 Negroes and Malays.

Some physicians have been studying the part perspiration plays in throwing off the poisonous products developed in the body by pathologic conditions or by the effects of drugs. The conclusion reached is that in the elimination of normal and abnormal substances, the skin is comparatively unimportant compared with the kidneys.

CHANGE IN MEMBERSHIP.

(July 15th to August 15th.)

NEW MEMBERS.

G. W. Beeman, Munising, Mich.
J. B. Brasseur, Norway, Mich.
Henrietta Carr, Eaton Rapids, Mich.
J. M. Gallery, Eaton Rapids, Mich.
L. L. Goodnow, Negaunee, Mich.
R. S. Griswold, Bay City, Mich.
C. L. Hathaway, Hanover, Mich.
F. H. Shorts, Chatham, Mich.
B. Thompson, Jackson, Mich.
C. L. Tuttle, Clinton, Mich.
F. A. Van Sickle, South Frankfort, Mich.
A. J. Warren, Mt. Clemens, Mich.
H. B. Williams, Marlette, Mich.

CHANGE OF ADDRESS.

S. E. Campbell, Hancock, Mich.
H. E. McLennan, Petoskey, Mich.
G. R. B. Meyers, Colorado Springs, Colo.

DEAD.

C. J. Kneeland, Traverse City, Mich.

BOOKS RECEIVED.

VON BERGMANN'S SURGERY.—By Drs. E. von Bergmann, P. von Bruns, and J. von Mikulicz. Edited by William T. Bull, M. D. Vol. IV. Lea Brothers & Co., Philadelphia and New York, 1904.

RADIOTHERAPY AND PHOTOTHERAPY, including Radium and High Frequency Currents.—Charles W. Allen. Lea Brothers & Co., Philadelphia and New York, 1904.

THE PRACTICAL APPLICATION OF RÖNTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS.—William Allen Pusey, M. D., and Eugene W. Caldwell, M. D. Second Edition. W. B. Saunders & Co., Philadelphia, New York and London, 1904.

A TEXT-BOOK OF PATHOLOGY.—By Joseph McFarland, M. D. W. B. Saunders, Philadelphia, New York and London, 1904.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION.—By Prof. Dr. Carl von Noorden. Part II., Nephritis. Part III., Colitis.

Properties of Anti-Crotalus Venin.—

Summary:

1. The local lesions caused by crotalus venom interfere with the employment of the venom in an unmodified form for purposes of immunization.

2. Hitherto no practically successful production of antitoxin for rattlesnake venom has been accomplished because no method has been known by which the local effects of the venom could be removed without rendering the venom useless for purposes of immunization.

3. The modification of venom by means of heat reduces or abolishes the activity of the venom at the expense of the hemorrhagin and possibly other locally acting principles.

4. In order to produce an antitoxin for crotalus venom, the attempt was made to transform the locally active principles of this venom into toxoid modifications.

5. Through the use of hydrochloric acid and iodine trichloride, the venom is deprived of a large part of its toxicity, while it still preserves the power to set up anti-venin formation in the dog and rabbit.

6. That an anti-venin of considerable activity against rattlesnake venom can be produced in this manner, the experiments proved.—(*The Journal of Medical Research*, May, 1904, SIMON FLEXNER and HIDEYO NOGUCHI).

The Relation of the Islands of Langerhans to Diseases of the Liver, with Special Reference to Carbohydrate Metabolism.—

Conclusions:

1. Diseases of the liver are generally accompanied by an enlargement of the islands of Langerhans, which is considered a true compensatory hypertrophy.

2. The fact that the liver and the islands of Langerhans, have been shown to possess properties which aid in governing the carbohydrate metabolism, suggests that it is the limitation of this function in the liver which is being compensated by the enlargement of the islands of Langerhans.

3. Two theories, at least, concerning the *modus operandi* of this phenomenon, are worthy of consideration. One, based on Lépine's theory, assumes the elaboration of the glycolytic ferment in the islands of Langerhans, which, entering the blood, causes the oxidation of any sugar in excess of the normal amount and that with an increase of the sugar in the blood, resulting from the hepatic disease, an additional responsibility is placed upon the islands of Langerhans in the elaboration of this ferment, in order that a normal sugar balance may be established. These structures, if healthy, in response to the additional demands placed upon them, undergo hypertrophy. Another theory, suggested by Herter and Wakeman's experiments with adrenalin chloride and similar substances, is that the secretion of the islands of Langerhans possesses an inhibitory influence upon the liver cells in their property of converting glycogen into sugar, and that with a decreased liver activity an additional functional activity of these islands is stimulated, and they, in consequence, become hypertrophied.

4. It is probable that diseases of the liver occur prior to cirrhotic changes in the pancreas, as shown by certain cases in which the islands of Langerhans are greatly enlarged but otherwise unaltered, though surrounded by dense bands of fibrous tissue.

5. It is probable that an increase in the number of islands of Langerhans occurs through a transformation of the acini of the pancreas into these structures, as is seen in a certain number of cases in which the fibrous tissue of the pancreas is not increased, though an unusual abundance of interacinous cell groups are present.

6. Severe involvement of the islands of Langerhans in a hyaline degenerative process may occur without the usual resultant diabetes. This is explained by the fact, in the one case presented, that the unaffected islands have undergone an immense hypertrophy, thus fully compensating for the lost or limited function of the affected islands.

7. The property the healthy islands of Langerhans possess of undergoing a compensatory hypertrophy explains, in some cases of diabetes, the lessening and even the final disappearance of the sugar in the urine. This property of the healthy interacinous cell groups of the pancreas also

explains the rationale of the treatment in certain mild forms of diabetes by restriction of a carbohydrate diet. The non-occurrence of sugar after a return to general diet may be taken as evidence that a sufficient degree of hypertrophy has occurred in the healthy islands of Langerhans. (*The American Journal of Medical Sciences*, August, 1904, J. C. OHLMACHER.)

Correspondence.

EDITOR.—I beg to express my sincere thanks and appreciation for my election to honorary membership in the Michigan State Medical Society, and also for the cordial expressions in your kind letter informing me of my election. I have great pleasure in accepting this distinguished honor, and hope that I may sometime have the pleasure of meeting my colleagues in this Society, of whose good professional work I know something.

Believe me to be, with kind regards,

Very sincerely yours,

WILLIAM H. WELCH.

Baltimore, Md., July 14, 1904.

EDITOR.—At the regular quarterly meeting of the Michigan State Board of Health, at Lansing, July 8, 1904, Dr. Baker, special committee on the subject, reported the results of an investigation of the prevalence in Michigan of gonorrhea and syphilis, during the first half of 1904, as follows: Of the regular weekly card reports, made by representative physicians in general practice relative to sickness from twenty-nine prominent diseases, twenty-seven per cent of all the reports stated the presence of gonorrhea, and twenty-two per cent stated the presence of syphilis. The reports were received from 29 cities, 82 villages and 3 townships. The average number of weeks gonorrhea was reported from each of the cities was 6.4, and of syphilis 5.8. In each village the average number of weekly reports of gonorrhea was 3.7, and of syphilis 2.5. In each township gonorrhea was reported from each of the cities the average number of weekly reports of gonorrhea was 2.3, and of syphilis .7. Arranging the twenty-nine diseases in the order of their greatest reported prevalence, during the twenty-four weeks, only five diseases exceeded gonorrhea and only nine exceeded syphilis in the apparent sickness therefrom. Much of the success of this investigation was due to the fact that the name of any individual having either of these diseases was not required, therefore the reports were probably complete.

MICH. STATE BOARD OF HEALTH.

Book Notices.

Under the charge of
RAY CONNOR.

TEXT-BOOK OF HUMAN PHYSIOLOGY. By Albert P. Brubaker, A. M. 700 pages. 354 illustrations. Cloth \$4.00 net. P. Blakiston's Son & Co., Philadelphia, 1904.

This work, moderate in size for a text-book of physiology, has been written with the needs of the medical student and practitioner foremost in the author's mind. Purely theoretical considerations are passed over briefly, while such things as have a bearing on the practice of medicine are dwelt upon. The methods of physiological research are not described in detail, but an appendix describing some essential forms of laboratory apparatus is added for those who have not had laboratory training.

One chapter is devoted to the Chemic Composition of the Human Body, and one can refresh his mind here quickly with some valuable and perhaps forgotten facts. Then after a chapter on the Histology of the Epithelial and Connective Tissues, the more strictly physiological subjects are taken up, beginning with the Physiology of the Skeleton, the Muscle, Nerve, etc. The Anatomy is gone into rather more fully than is usual in text-books of physiology and this is especially true of that portion of the body where it is all important, namely, the nervous system. This portion of the book is particularly good, and is considered in six chapters. Sketches are given under the Physiology of the Cerebellum of the various attitudes of dogs after different parts of this important organ have been removed. The anatomy and physiology of the cranial nerves are taken up and separate chapters given to the special senses, Hearing and Sight. A brief chapter on Reproduction completes the book. Excretion, digestion and the general physiologic topics are discussed in an earlier portion of the work.

The mechanical work is well done. The illustrations are very abundant. The larger number are given over to anatomical and histological subjects. Even the various kinds of leucocytes are pictured in a large plate, taken from a well known work. The remainder of the illustrations are chiefly diagrammatic but serve to make clear the points desired, and so add to the value of the book.

A SYSTEM OF PRACTICAL SURGERY. By Prof. E. von Bergmann, of Berlin; Prof. P. von Bruns, of Tübingen, and Prof. J. von Mikulicz, of Breslau. Edited by Dr. William T. Bull. To be complete in five imperial octavo volumes, containing 4000 pages, 1600 engravings and 110 full page plates in colors and monochrome. Sold by subscription only. Per volume: cloth, \$6.00; leather, \$7.00; half morocco, \$8.50 net. Volume III just ready. 918 pages, 595 engravings, 21 plates. Lea Brothers & Co., Philadelphia and New York, 1904.

The third volume of this great undertaking is at hand, and continues on the same high plane as its predecessors. The present volume is given up to the surgery of the extremities, which is taken up with the thoroughness and completeness which has characterized this work throughout.

The Malformations, Injuries and Diseases of the Arm, from the shoulder to the finger tips, are taken up systematically. Prof. Dr. A. Hoffa contributes the article on Malformations, Injuries and Diseases of the Hip and Thigh. Lorenz method of bloodless reduction for congenital hip disease is well described, and the professor given full credit for making the operation popular. The advantages as well as limitations are fully and clearly pointed out. It always fails in older children, and even in the younger cases the results are usually only functionally good, as the head of the femur is in a false acetabulum.

The American editors have added quite an extended account of Rudolph Matas' new treatment for aneurism in the extremities. This is rendered very much clearer by a large number of Matas' diagrams. The additions from American sources seem even more considerable than in the preceding volumes. Many of the illustrations are taken from such American authors as Hamilton, Scudder, Simpson, Whitman, etc.

The other malformations, injuries and diseases of the leg, take up the remainder of the book. The volume is even more freely illustrated than its predecessors and this adds very greatly to the pleasure and profit of the work. Very many of the illustrations are skiagraphs, and the most of them very excellent ones indeed.

The volumes which have so far appeared have more than made good the claims of their publishers and the completed system, which promises to be soon in the hands of the subscribers, is certainly the best yet in the English language.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Prognosis in Diabetes Mellitus.—Mandel and Lusk have made the following observation:

A diabetic patient, with a low acidosis and with no albumin in the urine, when put on a meat fat diet showed a constant ratio of dextrose to nitrogen in the urine. This was Dextrose: Nitrogen=3.65:1. This ratio was uninfluenced by fat digestion or fat metabolism. Hence the sugar was derived from the proteid alone; the sugar rose and fell with the proteid metabolism. There was complete intolerance for carbohydrates. Withdrawal of carbohydrates from the diet, and continuance of the proteid-fat quantity in the food, had no effect on the excretion of nitrogen in the urine. A sufficient quantity of meat and fat for the body's need was assimilated

Hence, if a diabetic be put on a meat-fat diet (rich cream, meat, butter and eggs) and the 24-hour urine of the second day be collected, the discovery of 3.65 grains of dextrose to 1 grain of nitrogen signifies a complete intolerance for carbohydrates, and probably a quickly fatal outcome. Hence this may be called the fatal ratio. (*Journal of Amer. Med. Ass'n*, July 23, 1904.)

Functional Albuminuria.—This is a condition in which the albumin is generally absent from the urine on rising in the morning. After the activity of the day begins, it appears and remains constant, or increases as the day advances. It is found most commonly in boys under twenty. No organic lesion is discovered. It is apparently dependent upon (1) muscular activity, and (2) ingestion of food. The kind of food does not seem to make much difference. Diet and exercise seem to have some effect on the albuminuria, either by causing an increased arterial tension, an undue permeability in the blood vessel walls in the kidney, or a cardio-vascular instability. There seems to be a strong right ventricle impulse as contrasted with a weak apex beat. Yet in spite of all this we are ignorant of the condition of the blood vessels of the kidneys which allow the passage of albumin in the urine of a person whose kidneys are otherwise apparently healthy. This is an extended report of the history of a boy of nineteen, who had a probable functional albuminuria, in whose urine there were large quantities of calcium oxalates crystals. Ex-

tended hourly examinations of the urine were made, and after the withdrawal of "root beer," which had been persistently used for several years, the oxalate crystals disappeared; the casts, etc., also could not be found. In fact but the faintest trace of albumin persisted. Ogden therefore believes that the albuminuria had a direct relation to the oxalate crystals, and that these came from the continued ingestion of root beer. (*Boston Med. and Surg. Journal*, July 14, 1904, J. B. OGDEN.)

Human Perspiration.—In some studies by J. H. Hoelscher on perspiration, he found that the hot air bath causes a rise of temperature of an aseptic type even as high as 104, which no antipyretic will reduce; that the sweat contains an excess of urea and nitrogen. In articular rheumatism the salicylates with the hot air lessens cinchonism and gives more rapid results. Pilocarpine should not be used with hot applications as the sweating is increased. No sugar or bile could be eliminated by the skin. Finally the skin as a means of eliminating normal or abnormal substances from the body cannot be compared to the kidneys. (*N. Y. Med. Jour.*, Feb. 15, 1904.)

Sequelae of Typhoid Fever in the Nervous System.—While typhoid has at times been called a nervous fever, the lesions in the nervous system are relatively uncommon. Autopsy shows that meningitis is the most common of the lesions. This is usually of the purulent type. Other afflictions, however, are sometimes found. Hemiplegia may occur usually in the third week. It is oftener found on the right side, involving the face also. It apparently has no effect on the course of the typhoid. The most common disturbance is neuritis, involving individual nerves. It appears in the third week or later. Pain is a constant accompaniment of it. Multiple neuritis is rare. When pain is the only symptom, recovery is very slow.

Following attacks of typhoid fever, functional disturbances are not uncommon, especially hysteria and neurasthenia. This latter is the commonest nerve-lesion found, and is simply a fatigue neurosis. The so-called "typhoid spine" is a sort of priantitis of the spinal joints in dorso-lumbar region, causing a sort of lumbago, but with a definite lesion in the spinal joints. (*N. Y. Med. Journal*, July 16, 1904, BAILEY.)

SURGERY.

Under the charge of

MAX BALLIN.

The Treatment of Post-operative Vomiting by Gastric Lavage.—It is not an exaggeration to say that persistent post-operative vomiting is one of the most dangerous complications with which the surgeon and patient have to contend, yet this is a subject which has received scant notice at the hands of authors. This can be partially understood when we recollect that it has been only during very recent years that emesis after anesthesia has been accounted for by strictly scientific and accurate methods. With many of us, vomiting associates itself in our minds with a group of such drugs as bismuth, oxalate of cerium, cocaine, etc., almost ad infinitum. The empirical method serves us well when the etiology of the condition is obscure, but with a well defined cause the elimination or modification of that cause is the only rational and regular method of treatment. The etiology of post-operative vomiting is due directly to the anesthetic, absorbed and discharged into the stomach. Gastric lavage will remove this irritating substance, thereby preventing nausea and vomiting.

During anesthesia there is a condition of atony of the stomach walls, together with an exudate of chloroform or ether into the stomach, acting as an irritant, and there is formed in their presence an increased amount of toxic substances.

The only method which has given uniformly good results in my hands has been lavage of the stomach immediately after the anesthetic is stopped and before the patient leaves the table. (It is essential that the patient should be well under the anesthetic at the time the tube is inserted).

There are three conditions in which this prophylactic treatment is indicated: (1) In cases where there has been insufficient time to prepare the patient, such patients often have their stomach distended with food. (2) In cases where the anesthetic lasts an hour or longer. Operations of short duration are usually not followed by vomiting. (3) In cases where the patient previous to operation has suffered with attacks of nausea and vomiting or chronic gastritis.

It is contra indicated in operations upon the stomach and in very young children.

In those cases in which vomiting occurs in spite of lavage, absolute rest of the stomach brings the best results. Keeping the patient quiet by very small doses of morphia or heroin hypoder-

mically and withholding food and water for twenty-four or even forty-eight hours, usually suffices. The intense thirst can be relieved by enemata of salt solution and nutrition maintained by rectal alimentation; but this is not required except in extreme cases. (*Annals of Surgery*, August, 1904, CHARLES S. WHITE).

Treatment of Chronic Internal Hydrocephalus, by Lumbar Puncture.—The following conditions must be present in each case before lumbar puncture should be practiced:

(1) Free communication must exist between the ventricles and the subdural space.

(2) The head must be compressible.

(3) The bones must be flexible and there must be no evidence of ossification in the fontanel or the sutures.

(4) Ossification is usually well advanced after the second year; therefore treatment must be instituted before this period.

(5) Lumbar puncture is preferable to direct tapping of the ventricles as there is an entire absence of all danger of the untoward complications following the latter. (*American Medicine*, August 9, 1904, H. LOWENBURG).

The Surgical Treatment of Epilepsy.—J. Chalmers, Da Costa, gives an admirable review of this subject in *Medicine*, February, 1904. Conclusions:

(1) Operations for epilepsy are distinctly disappointing and rarely curative, and are indicated in only a small proportion of cases.

(2) They frequently produce temporary benefit.

(3) They may save life, but they are not entirely free from danger, and occasionally leave the patient worse than before.

(4) The mortality, though small, is not inconsiderable.

(5) The actual number of complete recoveries is probably under 5 per cent.

(6) No case should be claimed to have been cured until from 3 to 5 years have elapsed since the operation.

(7) Even after operation medical treatment and supervision should be exercised for a long period of time. (*The American Journal of Medical Sciences*, August, 1904).

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Clinical Significance of Retroflexion.—Professor Winter, of Königsberg, brings out very completely the clinical side of retroflexio uteri. A most important fundamental point to be always kept in mind is that simple, uncomplicated retroflexion produces no symptoms. These are caused by the complications, which may not be present even after a long period of flexion. The symptoms are divided according to the existing lesions as follows:

(1) Pain in the lower abdomen, groin and back; dragging sensations and a feeling of weight, with pressure on the rectum. Such symptoms are caused, in most cases, by inflammatory disease in the adnexa, the remains of an old peri or para metritis.

(2) Bladder symptoms. The condition of the bladder, mucous membrane and of the urine are unfortunately seldom investigated. Retroflexion is usually not the cause of vesical complaints, for an abnormal condition of the mucosa will generally be found, provided neurasthenic tenesmus can be ruled out.

(3) Discharge and bleeding are generally the result of a complicated endometritis or a chronic atonic condition of the uterus.

(4) Dysmenorrhœa and sterility are to be explained by retroflexion only in the case of a sharp flexion in a nullipara and only after all other possible causes have been eliminated.

(5) Abortion is predominately the effect of complications, criminal acts or traumatism.

The treatment is largely that of the complications. (*Zent. f. Gyn.*, July 9, 1904.)

Obstetrics in General Practice.—McNulty states that the practitioner may become meddlesome by rupturing the fetal membranes too soon, thus introducing germs into the contents of the uterus, which forms an excellent culture medium. Hence the necessity of giving strict attention to the details of an aseptic technic. Gynecologists grow rich upon the neglect of the obstetric practitioner.

The man doing obstetrical work should have at his finger tips the normal diameters of the pelvis and of the fetal head and should have a mental picture of all the positions the head may assume in passing through the canal.

Forceps should be used just as any indicated drug. It is bad practice to try to rotate the head with the forceps in position.

If, in premature labor, the os is found to be dilated, it is the practice of the writer to rapidly dilate and empty the uterus. The prospect of saving the child is thus much greater and the danger of hemorrhage less. Leaving a portion of the placenta is dangerous.

Breech presentations should be cautiously and carefully managed. So long as the breech does not appear at the vulva, there is, as a rule, little danger to the child. After its appearance, the delivery should be rapid. (*Medical News*, July 2, 1904.)

Sterility from Vaginal Causes.—Sterility of vaginal origin is classified by West as congenital, pathologic, traumatic and psychic. Among the congenital causes are pseudo hermaphroditism, congenital absence of the vagina, vaginal septa and bands, congenital atresia and imperforate hymen—many of which conditions yield to judicious surgical interference.

Pathologic causes are the most frequent and include neoplasm, syphilitic growths and inflammatory conditions which produce abnormal secretions, inimical to the life of the spermatozoa. New growths should be removed but when malignant, conception should be prevented. Luetic conditions are to be combated with the mixed treatment. Acid secretions may be relieved by the use of antiseptics and local applications, the best of which is silver nitrate.

Of traumatic causes, vesico-vaginal fistula, cystocele, rectocele and complete procedentia are the most common. Atresia, due to trauma, may occur.

Cases due to psychic causes can be but little helped by the physician. (*Medical News*, July 9, 1904.)

Sterility From Uterine Causes.—Vineberg divides cases of sterility, due to uterine causes, into primary and secondary. The most common of the primary are arrested development of the uterus—as a rule hopeless; infantile uterus, with long cervix and short flexed fundus often amenable to treatment; congenital retroversion, in which both the cervix and the body are long and slender—cases, which in the writer's experience, no treatment will cure. Conical cervix and pin hole os are readily remedied.

Among the secondary causes are endometritis of gonorrhœal origin, chronic metritis, deep lacerations of the cervix, hyperinvolution and atresia of the uterus. (*Medical News*, July 9, 1904.)

Application for Fissure of the Anus.—The following treatment for fissure of the anus is recommended by Katzenstein:

Cocaine hydrochlorate	} of each,
Extract of Belladonna,	
Ichthyol	1 grain.
1½ drachms.

This is heated and introduced into the rectum on a pledget of cotton. When it is inserted, the patient should be directed to bear down. The mucous membrane is thus exposed and the tampon pulled in by the action of the mucosa itself. (*Am. Med.*, July 2, 1904.)

PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

Illuminating-Gas Poisoning.—From a study of 90 cases of illuminating-gas poisoning, the following conclusions are drawn by Thompson, concerning comatose cases:

1. Leucocytosis is both high and persistent, rising in many cases above 18000, and in a few fatal cases as high as 50000. A differential leucocyte count shows preponderance of the polymorphonuclear cell. A high degree of leucocytosis is a very unfavorable prognostic symptom.

2. Elevation of temperature is observed in nearly all cases. Fever is usually moderate and of a very irregular type. In many cases a subnormal temperature precedes the elevation, and it is often observed in convalescence. The pulse is disproportionately rapid as compared with the temperature.

3. The nervous symptoms are both varied and inconstant. Convulsions occur in about 7% of all cases and muscular rigidity in a slightly larger proportion. The reflexes and pupillary symptoms show great variability. The coma bears no definite relation to the intensity or duration of the fever. Coma lasting 4 or 5 days is not invariably fatal. In the series of 90 cases only 17 cases or 18.8 per cent died.

4. The results of combined phlebotomy and saline infusion justify the prompt and thorough employment of these measures.

5. Pneumonia is an infrequent complication and in a large percentage of fatal cases the cause of death may be referred to cerebral lesions, such as congestion of the meninges and brain substance, hemorrhage of the cerebral capillaries, or hemorrhage into and softening of the internal capsule, lenticular nucleus and adjacent structures. (*N. Y. Med. Record*, July 7, 1904. THOMPSON.)

Carbolic Acid Poisoning.—The patient, a child two years of age, swallowed a certain quantity of strong carbolic acid, which had been carelessly left in a cup on the floor by the mother while engaged in the process of exterminating bed bugs. According to family reports, the child barely had time to take a few steps when it fell limp and unconscious. I arrived ten minutes later. At this time the pulse could not be obtained at the wrist. The entire body was cold and mottled. Respirations were infrequent, irregular and stertorous. While considering the child

moribund and the case hopeless I gave in rapid succession a large number of subcutaneous injections of brandy, and 1/60 grain of strychnine. In a few minutes the pulse was perceptible at the wrist and the respirations improved. By combining a glass syringe and a large soft rubber catheter, I improvised an excellent stomach pump and washed out the stomach, after which the whites of two eggs, and one-half ounce of brandy, were introduced through the tube. I do not think the stomach contained much carbolic acid, the symptoms having been produced rather by the immediate absorption of a small quantity of the substance. Pulse and respiration continued fair for about half an hour when respiration again failed. In spite of the Sylvester method of artificial respiration being employed faithfully, cyanosis increased, the pupils dilated, the lips became black and the muscles rigid. The patient refused to inspire at this crisis, so the lungs were filled several times by mouth-to-mouth insufflation before the least tendency to automatic function became apparent. By these methods, extending perhaps over ten minutes, respiration was again restored. Close watching and occasional stimulation were required during the next three or four hours, when the patient was left in practically normal condition, conscious and desirous of sitting up. The few slight burns were insignificant. (*Bost. Med. and Surg. Journal*, June 16, 1904. HARVEY.)

Treatment of Tabes.—The writer considers this disease as the niece of syphilis, and advises the use of mercury and the iodides in all cases at first, except when the patients are in an extremely debilitated condition. Outside of this, he treats the patient on general principles, advising him once a year to enter a sanitarium and take a course of treatment, first eliminative and then reconstructive. It is important from the beginning to impress on the patient the fact that there are some patients who become entirely well, and that the majority of them by careful handling of themselves are assured of a comparatively long and useful life. In short, he would treat such cases in an optimistic spirit which he endeavors to instill into his patient, with the aid of the ordinary hygienic and dietetic measures, remembering at the same time the probable syphilitic origin of the disease. (*The Lancet*, June 18, 1904. FAURE.)

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

Keloids.—The name of Keloid is given to neoplasms made up of connective tissues in the form of patches, strips or tuberosities, having identity with cicatricial tissue. One kind of Keloids is developed spontaneously in the derma, with which the Keloids are intrinsically connected, while others take their seat on the cicatricial tissues.

Both kinds, when they have attained a certain degree of development, remain unchanged for an indefinite time, show no tendency to involution, nor to any other degenerative process, though in rare cases they may undergo involution and disappear. They do not spread in metastatic forms, but when removed they are quickly reformed, assuming larger proportions. In the spontaneous Keloid the relapse occurs in the form of a cicatricial Keloid. In the cicatricial Keloid, however, especially when produced on a burn, the relapse takes place with remarkable rapidity, but without any tendency to malignancy. The spontaneous ones are tumors of obscure or at least unknown causation, developing in the depth of the skin, without any apparent previous scar, while the cicatricial Keloids have their origin on the base of scars, which are the result of injuries of any kind, more often of cauterizations and burns.

One of the important features in the structure of the cicatricial Keloid is the nearly total absence of the elastic fibers. It is supposed that in the Keloid the elastic fibers either are lost on account of the pressure of the connective tissues, or they are subject to peculiar chemical degenerations, and in consequence cannot be stained. The elastic fibers are of the greatest importance for the functions of the derma; they maintain the skin in its normal position, and when the skin is stretched bring it back to its normal condition. Then, again, the elastic fibers maintain the connective tissues in their normal position and limit their growths; for the growth of the connective tissues is greatly increased by the loss of the elastic fibers. The elastic fibers, when destroyed, are never formed again. In the structure of the Keloid all traces of glands, hair follicles and cutaneous muscles are lacking.

It would, therefore, appear that the destruction or the degeneration of the elastic fibers is the predisposing factor for the production of the Keloid. As a determining cause many have thought that it ought to be found in a local infection; others believe it to be an affection of embryonal origin. While all recognize an inclination to Keloids of the skin of the negro, many deny the special individual predisposition.

In his studies with the Keloids Dr. Ravogli has never met with any form which has suggested the idea of a microbic origin. He is rather inclined to maintain that the lack of the elastic fibers is of great enough importance to explain the abnormal development of the connective tissues. If the Keloid is developed on a cicatrix, it is for the

simple reason, in his opinion, that in the cicatrix the elastic fibers have been destroyed, or have undergone degeneration.

Nearly every one who has removed Keloids has had the disappointment of seeing, sooner or later, the relapse of the tumor. Under the X-rays the tumors have become much harder to the touch, they have reached nearly the level of the skin, and the pain and the tenderness have left. (A. RAVOGLIO, M. D., Cincinnati, *Journal of the American Medical Ass'n*, July 30, 1904.)

The Treatment of Syphilis by the Hypodermic Injection of Mercury.—Dr. Lawrence T. Royster, in referring to his treatment of the acute stages, gives the following:

The necessary articles are a graduated glass hypodermic syringe, platinum needle three-quarters to one inch long exclusive of the shank, and an aqueous solution of bichloride of mercury. He has the solution made up with an equal amount of common salt, which secures a better solution and quicker absorption.

The technique of injection is important. It is best to inject into a fleshy portion of the body. Some use the muscles of the back, others the thigh, and still others the buttocks. He prefers the last. He sits and has the patient stand in front of him with bared buttocks; the latter is then instructed to tighten them (by contracting the gluteus); the needle is then stuck quickly straight in; he is told to loosen the buttocks and the injection is made quite slowly, taking fully a minute to complete the operation. The needle is then quickly withdrawn, and a wad of absorbent cotton placed on the sight of injection. The buttocks are rubbed with this in a sort of rotary massage for another minute, and the injection is complete. The injections are made into each buttock alternately.

He uses a more concentrated solution of the mercury, employing a four per cent solution, and varying his routine as follows: Commence with 5 minims of a two per cent solution and increase up to 10 or 12 minims, and then change to 5 minims of a four per cent solution and increase up to about 10 minims and make this the maximum dose. The use of this concentrated solution has reduced both pain and induration to a minimum, and to his mind leaves this the most satisfactory method of treatment.

If a patient comes with the eruption well out, he uses an injection every day until the eruption has disappeared; but when the eruption is slight or seen very early, every other day usually suffices. The intervals are gradually lengthened until, by the end of about ten months, he is administering only one injection each week, and this is maintained until the end of two-and-one-half or three years. Of course it must be remembered that every case is a law unto itself and needs different handling according to circumstances.—(*Medical Record*, August 13, 1904.)

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THE RELATION OF THE APPENDIX TO PELVIC DISEASES.*

Based Upon a Clinical and Microscopic Study of 200 Cases.

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Combined operations may be said to be the order of the day. Not only is the gynecologist called upon to operate upon more than one portion of the generative tract at one sitting, but he is also expected to ascertain the condition of various other abdominal organs when the abdomen is opened for the treatment of pelvic disease. How much shall be done outside of the pelvic cavity during one operation will depend largely upon the number and kind of lesions present and the general condition of the patient. When there is a history of attacks of abdominal and pelvic pain and exploration through the suprapubic incision has shown the gall-bladder filled with stones, obviously cholecystotomy and removal of the stones are called for at the same operation, unless the general condition of the patient is a contraindication to the prolongation of the operation. In

this manner will the patient be saved the discomfort and expense of a second operation.

The same line of reasoning may be applied to the appendix. Unless there be contraindications, everyone, I think, will agree that this organ, if diseased, should be removed whenever the abdomen is opened for other abdominal and pelvic disease. The question then turns upon the ability of the surgeon to determine by inspection and palpation if a given appendix be diseased. If the organ be enlarged, attached to diseased appendages or show other gross evidences of departure from normal, there arises no question as to the desirability of its removal. But is the appendix which is free from adhesions, which is not constricted or angulated to be considered a normal organ? Are the appendices which are free from adhesions but are constricted at one or more places diseased? In other words, can we, from macroscopic appearances alone, say whether an appendix is or is not diseased? Obviously, this can only be determined by carefully noting the gross appearances of

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the organ in a series of cases where the abdomen has been opened for other purposes, subjecting these appendices to careful microscopic examination and then combining microscopic with the clinical findings. If appendices presenting certain appearances be found in the majority of cases to be normal, while the contrary is proved to be the case in other appendices, the surgeon would soon have in his possession certain facts from which could be deduced rules which would govern his procedure at a given operation. Certain appendices he would remove because both macroscopically and microscopically he has found them to be diseased. On the other hand, if appendices to all appearances normal at the operation were shown microscopically to be diseased and vice versa, the operator would be obliged to dispense with rules, and in case of a certain proportion of the appendices being proved by the microscope to be abnormal, he would be forced either to close the abdomen with the knowledge that he was leaving behind a certain percentage of diseased appendices or he would be driven to remove every appendix irrespective of its physical appearance. Especially would he choose the latter course if his clinical experience had convinced him that often his patients suffered from a diseased appendix after the surgical cure of their pelvic lesions.

In 1893 my attention was called to the importance of a careful examination of the appendix when the abdomen was opened for pelvic disease. In that year I operated upon a single woman of 32, who for two years had suffered from dysmenorrhea and pelvic pain. The appendages were not enlarged but were extremely tender and, as there were no evidences of endometrial disease, they were

supposed to be the cause of the pain. Section, however, showed the pelvic organs normal. The appendix was found unusually long and club-shaped. Its removal resulted in a cessation of the attacks of pain and a complete recovery.

Since this case I have made it a rule to examine the appendix whenever I was not completely satisfied that the patient's symptoms could be explained by the existing pelvic lesions. Like many another operator, however, I failed to record accurately my observations until some two years ago. Then, with the view of throwing some light upon the questions considered above, I began systematically to remove the appendix in every case where the abdomen was opened for other purposes, unless in my opinion the patient's chances of recovery were jeopardized by the additional five minutes' time required for the removal. Each appendix thus removed was subjected to careful microscopic examinations by Doctor R. L. Morse, pathologist of the gynecologic service of the Hospital of the University of Michigan. His work in turn was supervised by and his results verified in each case by Professor A. S. Warthin, director of the Pathological Laboratories of the University of Michigan.

In June, 1902, I presented before the Michigan State Medical Society a preliminary report of the microscopic findings in 34 removed appendices, together with certain clinical data relating to these same cases. At that time I purposely refrained from drawing any extensive conclusions, as I wished to study still further this important subject. Since that report I have removed and studied the appendix in 166 additional cases. I have deemed it wise to consider these cases together, since the second classification differs materially

from the one adopted in the preliminary report. I have included thirty of my private cases in this list, as the same care was used in the examination of these appendices as with the University Hospital cases.

Certain statements made in the first report apply equally well to this one, viz.: "The clinical material at the disposal of the department was as purely gynecologic as it could be made prior to the opening of the abdomen. Whenever it was suspected that the primary focus was situated in the appendix, the case was referred to the surgical clinic. Hence, to the gynecologist, the cases are of more value in showing the relationship between appendiceal and pelvic disease than if the doubtful cases had been included."

It has been the aim to conduct these investigations with a perfectly unbiased mind. No attempt has been made to prove any particular proposition by means of statistics. During the course of the study it became evident that a microscopic classification, admirable no doubt from a pathologic standpoint, was not at all serviceable in combination with clinical data. The classification finally adopted apparently meets all needs. With this microscopic classification clearly in mind, and with the clinical data in addition, it is hoped that the conclusions arrived at will be of real value to the surgeon.

According to the microscopic findings, the 200 appendices may be divided into:

1. *Negative*.—Comprising those cases showing no changes in the mucosa, submucosa, muscularis or subserosa, or upon the peritoneum, when compared with appendices taken as the normal standard and obtained from individuals without history of appendicitis and presenting none of the characteristics described below.

2. *Chronic Inflammation*.—Comprising those appendices presenting evidences of active catharrhal inflammation or ulceration of the mucosa, with atrophy of the mucosa and lymphadenoid tissue or muscularis associated with fibroblastic proliferation or formation of scar tissue.

3. *Doubtful Significance*.—Including appendices characterized by hyperplasia of the lymphadenoid tissue, dilatation or constriction of the lumen, hyperplasia of the connective tissue in the submucosa, local or general atrophy of the muscular coat, unattended by conclusive evidences of inflammation, the significance of these changes being unknown.

4. *Former Inflammation*.—Comprising those cases showing partial or complete obliteration of the lumen, formation of scar tissue in the mucosa and submucosa, lymphadenoid tissue and the muscularis without active signs of inflammation.

5. *Acute Inflammation*.—Including those cases showing active catarrhal or ulcerative inflammation without fibroblastic proliferation or formation of scar tissue, or atrophy of the different layers of the wall of the appendix.

6. *Peri-appendiceal Inflammation*.—Including those cases showing a purulent inflammation of the subserosa, mesoappendix or muscularis with the mucosa unchanged or secondarily involved.

Microscopically, the 200 cases can be arranged in the six groups as follows:

1. Negative,	65 cases,	32.5%
2. Chronic Inflammation,	57 "	28.5%
3. Doubtful Significance,	41 "	20.5%
4. Former Inflammation,	28 "	14.0%
5. Acute Inflammation,	6 "	3.0%
6. Peri-appendiceal Inflammation,	3 "	1.5%

Total, 200 cases, 100.0%

It may be well to state in this connection that Dr. Warthin has ever had in

mind in his examination of each appendix the main object of the investigation, and, whenever there has been a doubt regarding the abnormality of the specimen, it has been placed in a class by itself. This is of importance for it does away with the criticism that a pathologist can always find something wrong with a specimen. Combining cases of "doubtful significance" (41), with the negative or normal cases (65); we have 106 cases, or 53 per cent. showing practically no evidence of disease, while 94, or 47 per cent. of the appendices removed during the course of the sections for other purposes were diseased. As would be expected, the kind and extent of the disease varied in the different specimens from acute inflammation to where the disease had ceased to be active and was recognizable only by scar tissue, the result of former inflammation.

These figures are definite and conclusive as regards the condition of the appendix, as shown by the microscope in 200 appendices removed incidentally in the course of as many operations for various pelvic lesions. The operator is not obliged to state his impressions of how often in sections of this kind the appendix will be found diseased. Such "impressions," although stated positively in medical society discussions, carry but little conviction with them, no matter how accurate may be the observer, for, as we shall show later, it is impossible for anyone to judge of the abnormalities of the appendix by its macroscopic appearances.

There are only three cases showing peri-appendiceal inflammation alone. There were, however, 12 additional cases, which were secondarily peri-appendiceal, although their chief characteristics placed them in other groups.

In the chronic inflammatory class there were eight cases or 14 per cent., which could be designated as ulcerative. In 29, or 50.87 per cent. there was an obliteration of the lumen of the appendix. This obliteration varied in position and degree. At times it was at the tip, at other times at some other portion of the tube.

In the peri-appendiceal class there were two cases of tuberculosis and one of primary carcinoma of the appendix. The latter rare condition will be considered later.

Clinically, the 200 cases have been tabulated under different headings, according to age, social state, dysmenorrhea, abdominal pain which might have been due to a diseased appendix and according to the disease for which the primary operation was performed. In addition, the observations made at the time of operation regarding the shape, length and condition of the appendix as regards adhesions have been carefully collected and tabulated in reference to the microscopic findings. It is not always possible, either in hospital or private practice, to secure histories of value for statistical purposes, but at least the attempt has been made in the 200 cases.

Social State.—This can have but slight bearing upon the relation of the appendix to pelvic disease, except as it shows the nature of the clinical material from which the statistics have been made. Of the 200 patients, 157 were married, 31 were single and 12 were widows.

Age of patients and length of appendix.—Ribbert has noted the length of the appendix in 400 post mortem cases during the decades of life from 10 to 60. He finds that the appendix reaches its maximum length between the tenth and thir-

tieth year. It gradually becomes smaller during the decades between 30 and 60.

Ribbert's Tables. Length in 400 Cases.		Author's Tables. Length in 107 Cases.	
10-20 years,	9.75 cm.		
20-30 "	9.5 cm.	20-30 years,	10.5 cm.
30-40 "	8.75 cm.	30-40 "	8.1 cm.
40-60 "	8.5 cm.	40-60 "	9.0 cm.

The length of the appendix was carefully determined in 107 cases at the time of the operation. The method adopted was to ascertain the exact length by means of an aseptic graduated aluminum rule after the mesentery had been tied and cut. It was found impossible to record the exact length by any other method when the appendix was curved or bent upon itself. Shrinkage of the appendix after its removal renders laboratory measurements far from accurate, especially if the stump method of removal has been employed.

The average length of the appendix in 107 cases was 8.5 centimeters. This agrees very nearly with the measurements of other observers. In Ribbert's 400 cases the average length was 8.25 centimeters. The longest appendix was 20 centimeters, the shortest 3.75 centimeters. Recently, however, I discovered in the routine examination of the appendix in a non-inflammatory case, an appendix measuring only 1 centimeter in length. There were no adhesions around this diminutive organ or any evidence that it had been amputated. Arranging the 107 patients into decades according to ages and comparing the average lengths of the appendices during these various decades, we see that the maximum length is reached up to the age of 30, 10.5 centimeters. This agrees with Ribbert's findings. There is a decrease in length in the next decade to be followed by an increase in the last two decades, contrary to Rib-

bert's statistics, where the average length decreases during each decade.

Arranging those with diseased appendices according to decades and comparing these with the corresponding decades of those whose appendices were normal, we see that the length of the appendix in the normal group decreases as the age of the patients increases, while in the inflammatory cases the change in the length corresponds to that recorded above, viz.: a maximum length between 20 and 30, a decrease in the next and an increase in the next two decades.

It is possible, nay, even probable, that inflammatory changes play an important role in determining the length of the appendix. It may be inflammation rather than atrophic changes due to old age which causes a decrease in length as the age increases.

Length of appendix in 107 cases, averaged according to groups and decades.

Normal Cases. (60) Length.		Inflammatory Cases. (47) Length.	
20-30 years,	10.3 cm.	20-30 years,	9.4 cm.
30-40 "	9.8 cm.	30-40 "	8.8 cm.
40-60 "	9.1 cm.	40-60 "	9.0 cm.

Dysmenorrhea.—MacLaren has called attention to the unsatisfactory results following the ordinary surgical treatment for supposed cases of obstructive dysmenorrhea and suggests that some of these cases may be explained by the presence of an inflamed appendix, which manifests itself by attacks of colic during the menstrual period. He cites a number of illustrative cases. Other gynecologists have advanced the same idea. Recently Guinard has called attention to attacks of pain in the female, which he designates as *appendicalgia*. Pain is the most prominent symptom and the actual change in the appendix may be very slight. In the opin-

ion of this writer also, in many cases of so-called dysmenorrhea, the fault may not lie in the uterus or appendages but in the appendix. My own experience and reasoning leads me to the same conclusion, so much so that I continually bear this cause in mind in the consideration of the etiology of dysmenorrhea, especially in young single women whose pelvic organs seem fairly normal. As having a possible bearing on this question, I have noted the presence or absence of pain at the menstrual period in all of the 200 cases. Of course the word dysmenorrhea is a relative one and must be defined nearly every time it is used. Where there was but slight pain, unaccompanied by clots, I have classed it as absent. It must be remembered also that in nearly all of the 200 cases the abdomen was opened for marked pelvic disease which in itself accounted for most of the painful periods. We find, however, that when the appendix is the seat of chronic inflammation, the proportion of cases having painful menstruation is greater than in those cases where the appendix was found normal. In the former group the percentage was 41.8, and in the latter 36.9.

This brief consideration of a diseased appendix as a causative factor in the production of dysmenorrhea is unsatisfactory. So many factors may be present, any one of which may be responsible for a large part of the dysmenorrhea in a given case, that the question must be, by its very nature, hard to solve. But that an appendix, the seat of chronic inflammation, can manifest itself at the menstrual period by a sharp attack of abdominal pain, I am thoroughly convinced.

History of Appendicitis.—It must be remembered that the cases under consideration were strictly gynecologic cases.

The chief disease demanding operative treatment was supposed to originate, in every case, in the pelvis. The decision was arrived at after a careful consideration of the history and the pelvic findings. While in quite a proportion of the cases the involvement of the appendix was suspected, it was judged to be secondary to and of less importance than the pelvic lesions. We know now, what was not the case in the first consideration of appendicitis, that nearly as many women are attacked by the disease as men. Einhorn shows that of 18,000 autopsies performed at the Pathological Institute at Munich from 1854, in .55 per cent. there was perforative appendicitis in males, while the percentage in females was .57. Again, Krüger states that in Sonnenburg's clinic, in the seven years previous to 1897, out of 209 cases of appendicitis, 127, or 59 per cent., were men, while 41 per cent. were women. Or, take such a clinic as Ochsner's at the Augustana Hospital, of 90 patients suffering primarily from appendicitis, 39 were male and 51 were female. This may be from the peculiar nature of the clinic, but it is significant as showing the proportion of males attacked by this disease is not so greatly, if any, in excess of the females. The gynecologic service at the University Hospital is made up of material rich in new growths and chronic pelvic inflammatory lesions. Acute inflammatory cases do not predominate as is the case where the material is supplied from the poorer districts of a large metropolis. Hence, in one way, diagnosis is easier than when called upon to differentiate between appendicitis and pelvic exudates. To quote Ochsner again, besides the 90 cases treated in one year at his clinic, there were 13 cases in which the primary disease was in

the adnexa or both appendix and tubes were so extensively implicated that it was impossible to determine the primary seat of the inflammation.

An analysis of the 200 cases in reference to the history of possible appendiceal pain shows that such pain was present in 45 per cent. of the cases where the microscope showed the appendix was or had been diseased. Such pain was present in only 33 per cent. of patients whose appendices were subsequently shown to be normal. Of course, this is reasoning backwards and is of value only as showing that a more careful consideration of the location, periodicity and kind of pain in pelvic disease may give us a clue to coexisting involvement of the appendix. As before stated, patients giving a distinct history of appendicitis would have been referred to the surgical service. These figures simply mean that in 33 per cent. of the cases, the pain by its location and other characteristics was such as might have led to a suspicion of possible coexisting appendicitis, if it were possible to differentiate between pelvic pain and that originating from a subacute or chronic appendicitis.

Appendiceal Adhesions.—It is much easier to determine whether the appendix be free or buried in adhesions than it is to decide some of the questions just under consideration. Accurate observations were made as to adhesions in 146 of the 200 cases. The appendix was adherent 27 times, or in 18.5 per cent. Adhesions were twice as frequent in those cases where examination showed past or present disease as in those cases where the appendices were found normal. It is worthy of note, however, that in 6.1 per cent. of the normal cases adhesions were present.

Shape of the Appendix.—The shape of the appendix was noted as being abnormal in 52 out of the 200 cases, or 26 per cent. These abnormalities have been arranged in a table according to the divisions already referred to.

Table showing abnormalities of appendix in 52 cases:

Class.	Total No. of Cases.	Club-shaped.	Constricted.	Bent on itself.
1. Negative,	65	7 (10.7%)	6 (9.2%)	6 (9.2%)
2. Chronic Infl.,	57	2 (3.49%)	7 (12.3%)	9 (15.8%)
3. Doubtful Sig.,	41	6 (14.6%)	1 (2.3%)	3 (7.3%)
4. Former Infl.,	28	1 (3.5%)	3 (10.7%)	4 (14.3%)

Cases of acute and peri-appendiceal inflammation were omitted because the small number interfered with the averages. A study of this table reveals a number of significant facts. In the first place, it clearly demonstrates that mere shape of the appendix cannot serve as an index of its normality or disease. Out of the 52 cases the appendix was noted as abnormal in shape 27 times where the microscopic findings showed no disease. The appendix was noted as being club-shaped in 13 cases, yet subsequent investigation showed no disease. In 25 cases, however, where the shape of the appendix was noted as abnormal, different degrees of inflammation were found on microscopic examination.

Such findings as these must at least throw some doubt upon the correctness of the assertions of those who claim to be able to tell whether the appendix be diseased by its mere shape.

Fecal Concretions.—Fecal concretions were noted 12 times out of 146 observations, or 8 per cent. This does not include fecal concretions as revealed by the microscope. Such concretions are of microscopic interest only and are of no value clinically. The 12 concretions referred to were pal-

pable and could be taken into account in deciding whether to leave or remove the appendix. No other foreign bodies were found in this series of cases. Ribbert found 10 per cent. of fecal concretions in his 400 cases. They were slightly more common in men than in women, 10.5 per cent. being noted in the former and 9 per cent. in the latter. Kelly reports Robert Abbe as being of the opinion that the perfectly normal appendix never contains fecal concretions. This statement is not borne out by the results of microscopic examination of the cases referred to. Out of the 12 cases showing fecal concretions, four showed inflammatory changes, while eight were normal. This shows conclusively that the presence or absence of fecal concretions cannot be taken as a criterion of a diseased appendix. The removal of an appendix containing one or more concretions on the ground that their presence is a source of danger and renders the appendix more liable to disease is, on the other hand, logical and seems to be supported by abundant clinical evidence.

Pelvic Pathology and the Condition of the Appendix.—The 200 cases which have been used as the basis for this investigation were not selected ones. They represent the ordinary cases which the gynecologist is called upon to treat, with the possible exception of being more purely gynecologic on account of the rules under which the patients are assigned to the various services.

While the various lesions for which the 200 laparotomies were performed have all been carefully tabulated, only illustrative groups in their relations to the gross and microscopical condition of the appendix will be considered.

Chronic Disease of the Appendages.—In this group have been placed all cases where the appendages were the subject of chronic inflammation. It includes degenerative changes in the tubes and ovaries, as well as active inflammatory processes. In some there were slight, in others dense adhesions binding down the appendages and uterus to the pelvic floor or coils of intestines. Other cases, however, were free from adhesions, the operations being performed for degenerative changes in the ovaries with or without retrodisplacement of the uterus.

Of the 106 cases of chronic disease of the appendages, 62 or 58.4 per cent. were accompanied by normal appendices, while 44 or 41.5 per cent., showed past or present changes in the organ. As regards the side affected it may be noted that the disease was confined to the right side of the pelvis in 8 cases, to the left side in 6 cases, while both sides were affected in 30 cases.

The frequency with which the appendix is diseased in inflammatory pelvic affections of the right side has been dwelt upon by numerous observers. MacLaren's experience is notable. He had 58 cases of inflammatory disease of the appendages out of 200 laparotomies. In 20 of these cases the appendix showed enough evidence of disease to require its removal. The appendix may be infected from its contiguity to the appendages, usually the right, at times the left. Infection may travel to the appendix from the appendages or vice versa by way of the appendiculo-ovarian ligament, a peritoneal fold joining the right ovary to the appendix, as was first pointed out by Clado and since verified by numerous observers.

Contiguity.—It is not uncommon to meet with the normal or abnormal appendix situated within the pelvis. It may or

may not be adherent to the appendages of the right or left side according to the inflammatory conditions present. While the appendix is more liable to come in contact with the appendages of the right side, it is perfectly possible, as I have demonstrated many times, in the presence of enteroptosis, or with a very movable cecum, for the appendix to rest upon the left tube or ovary. The appendix lies within the pelvis in a considerable proportion of cases. I have recorded it as within the pelvis in many of the cases where changes were found in the appendix. I am now noting its exact location, whether adherent or not, and it is surprising the number of times it lies within the pelvis. Poncet and Dormoy, in order to suggest a rational treatment of certain forms of appendicitis through the rectum or vagina, have adopted pelvic as a distinct classification. Kelly makes it a rule to remove long free appendices in all right sided pelvic operations. It would seem more logical to remove such appendices, no matter what part of the pelvis has been operated upon, since such free appendices can become adherent to any portion of the pelvis.

Interesting in this connection are the gross appearances of the appendix noted at the time of the operation. These have been arranged in the form of a table and are of value in the way of comparison. It will be noted that in the inflammatory group (44 cases) there were 18 cases or 40.9 per cent. of adhesions, while in the negative group there were only 11 adherent appendices or 17.7 per cent. In the same way the inflammatory group showed 14 cases, or 31.8 per cent. of constrictions, while there were only 11 per cent. of constrictions in the negative group. On the other hand there were more club-shaped

appendices and fecal concretions in the negative than in the inflammatory group. This proves that even in chronic disease of the adnexa, where the appendix is more liable to be diseased, the mere gross appearance of the organ is no safe guide for its removal. Adhesions of the appendix to adjacent organs, even to the appendages, constrictions of its lumen, fecal concretions and a marked relative increase in the size of its distal end, does not necessarily denote that the appendix is diseased.

Table showing condition of appendix in 106 cases of chronic disease of the appendages.

	Total No.	Per cent.	Adhesions No.	Per cent.	Club-shaped No.	Per cent.	Constrictions No.	Per cent.	Fecal Concretions No.	Per cent.
Negative group,	63	58.4	11	17.7	5	8.1	7	11	0	9.6
Inflamma. group,	44	41.5	18	40.9	2	4.5	14	31.8	8	6.8

In one of my cases the appendix was removed unwittingly. A right-sided ectopic gestation sac was removed through a posterior vaginal incision. A careful examination of the specimen at the laboratory showed that the adherent and diseased appendix also had been removed. A moment's consideration will convince one that such an appendectomy must be of the crudest kind, and is an argument against the pelvic route for the treatment of pelvic lesions. Had the abdominal route been employed, not only could the ectopic sac have been more easily dealt with but the diseased appendix would have been discovered and removed in a surgical manner.

Uterine Fibromata.—There were in all 26 of these growths, arranged in two groups according to the presence or absence of adhesions. There were 19 in the non-adherent class, while in 7 cases there

were adhesions either of the appendages or some other portion of the growths. Nine of the patients with non-adherent tumors had normal appendices, while the remaining 10 showed inflammatory changes. Of the seven patients with adherent fibromata, four had normal appendices while in three inflammatory changes were present.

Of the entire number of patients with fibromata, 13 or 50 per cent., had normal appendices. Abnormalities in the gross appearance were noted in 4 cases, fecal concretions, adhesions, a constriction, and club-shaped being recorded in one case each. Of the 13 inflammatory appendices, two were adherent and three constricted. Hence, as far as the gross appearances were concerned, the appendices *appeared* diseased in only one less case in the negative than in the inflammatory group.

Ovarian Cystomata.—The two hundred cases included 24 ovarian cysts, varying in size from growths whose upper limits reached midway from the pubes to the umbilicus to very large tumors reaching to the ensiform. In 17 or 70.9 per cent. of these cases, the accompanying appendices showed inflammatory changes, while in 7 or 29.1 per cent. the appendices were normal. Thus the proportion of cases with diseased appendices is much larger than with fibroids. In nine of the 17 cases abnormalities of the appendix were noted at the time of the operation, one was club-shaped, two had fecal concretions, two were constricted, while three were adherent to the cyst wall. Of the seven negative appendices, one was bent upon itself and two were club-shaped. Thus, again it can be seen that the mere gross appearance of the appendix is no criterion of the microscopic picture.

Various observers have called attention to the frequency with which the appendix may be attached to the wall of an ovarian cyst. Sutton mentions this frequency and claims that the adhesions often arise from inflammation of the appendix. He quotes Doran as having had six such cases. Such an adherent appendix may easily set up an inflammation of the cyst wall, and the infection even extend to the cyst contents, giving rise to a suppurating ovarian cyst. Chognon, writing of the adhesions of the appendix to adjacent organs, collected from the literature 20 cases where it was adherent to ovarian cysts. My own statistics (three out of 24 cases) would show it even more common. Its position in relation to the cyst wall is important. Not only can appendicitis result but the cyst itself can be infected from the inflamed appendix.

Technique of Appendectomy as a Concomitant to Other Pelvic Operations.—Except in the case of the appendix accidentally removed through a vaginal incision for ectopic gestation, the appendices were all removed through the median abdominal incision. This is always made long enough to admit the operator's hand. So important do I consider the thorough exploration of the abdominal cavity, when once the peritoneum is incised, that I have dispensed with the small median incision. If the pelvic disease be severe enough to necessitate a laparotomy, a thorough exploration of the abdominal cavity is also called for unless there be contraindications. Pus in the pelvis would contraindicate the passing of the hand upward to the diaphragm for fear of septic contamination. It would not, however, prevent an examination of the appendix. On the other hand the general condition of the patient may be such as to preclude any

treatment except that directed towards the pelvic lesion. The appendix, with rare exceptions due to an extremely short meso-cecum or to adhesions, can be drawn to the median line with ease. The white band of the cecum serves as the best guide for the location of the latter. The hand is swept under the abdominal wall into the iliocecal fossa until the forefinger locates the band. The latter is then drawn into the incision and traced until the appendix is located. The appendix and cecum are then surrounded with gauze sponges to protect against possible fecal contamination and the appendix removed, the stump being touched with pure carbolic acid and buried by a purse string peritoneal suture.

The mortality attending the removal of appendices, the seat of chronic, not acute inflammation, should be nil. As far as could be ascertained in no one of the 200 cases was the mortality or even morbidity increased by the appendectomy.

Two years ago Howard Kelly secured through correspondence with 74 prominent surgeons in this country their opinions as to the advisability of removing the apparently normal appendix when the abdomen was opened for other purposes. Their replies showed that a large majority were against the removal of the normal appendix, simply because the opportunity arises to do so. An overwhelming majority, however, were in favor of the removal of the appendix when it deviates in the slightest degree from normal. This last opinion was brought out by the question whether the slightest adherent appendix when the abdomen is opened for other purposes should be removed. If the study detailed above has proved any one thing conclusively it is that adhesions of the appendix *do not* necessarily mean departure from the normal, viz.: a diseased ap-

pendix as revealed by microscopic examination. While adhesions were twice as frequent in those cases where the appendices showed past or present inflammation in 6.1 per cent. of the normal appendices adhesions were recorded as being present. The same may be said of club-shaped and constricted appendices and those containing fecal concretions. In other words the surgeon cannot tell in the class of work under discussion by gross appearance alone whether the appendix be or be not diseased. The surgeons quoted above would and do remove those appendices which they consider abnormal. They confess that the patient is much better off without the appendix if there be the slightest question of its being diseased. The reason they do not remove every appendix when the abdomen is opened for other purposes is because they feel that by inspection and palpation they can identify such a diseased appendix. I was of the same opinion before I began the above series of investigations. Now I am willing to confess to my inability to so determine.

I am convinced that in the past many of the failures to cure my patients after subjecting them to various surgical procedures via the suprapubic incision has been through neglect in not examining and removing the appendix. Appendiceal disease need not find expression in every case in an acute attack. The chronic form of appendicitis, with its rather frequent exacerbations, gives rise to pain, tenderness, or at least to an uncomfortable feeling in the right lower abdomen. I believe in many cases after complete ablation of the uterus and appendages for purulent disease, the subsequent abdominal pain and tenderness are not so commonly dependent upon adhesions as has

been supposed. Rather in many cases it is due to the presence of a diseased appendix. I know that my symptomatic cures have increased since I began systematically to remove the appendix when the abdomen was opened for other purposes. This alone is enough to warrant my continuation of the practice.

As I stated at the outset of this paper there may be contraindications to the removal of the appendix. However firmly the surgeon may believe it his duty to remove every appendix, he would not prolong the operation for five minutes if thereby he would seriously jeopardize his patients' chances of recovery. Neither would he remove the uterus in a case of bilateral pus tubes nor resect an ovary after removal of one pus tube, nor correct a retrodisplaced uterus in addition to other pelvic procedures, if thereby he thought he was diminishing his patients' chances of life. Yet rarely in his routine work does he have to decide against such additional procedures. I cannot see the force of the time argument against the removal of the appendix as applied to the large majority of cases. In my opinion, as before stated, the removal of the appendix as a concomitant operation when opening the abdomen for other purposes should not and does not in the hands of the trained surgeon add to the mortality of the abdominal section. Nor do I believe it prolongs the convalescence. These last two statements are individual opinions and possibly are of value merely as applied to my own work. But if they be universally true the only reason for the non-removal of every appendix where no contraindications exist is eliminated and the operator is logically compelled to remove the organ in every case, otherwise in nearly 50 per cent. of cases he will be

leaving behind a diseased appendix. His operations will be incomplete and his patients will suffer correspondingly.

Another argument in favor of removal of the appendix as a concomitant to pelvic operations by the abdominal route is the occasional presence of malignant disease of the appendix. The cases of primary carcinoma of the appendix are multiplying since the latter has been more systematically subjected to microscopic examination. Clark has reported recently a case of primary carcinoma of the appendix in a series of 120 laparotomies for pelvic disease with coincident removal of the appendix. One year later there had been no return of the disease. A. O. J. Kelly in 1900 reported three cases of primary carcinoma of the appendix in an examination of 706 appendices removed by Deaver. There was a fourth case but it may have been secondary to a carcinoma elsewhere in the body. In the three undoubted cases the tumors were of microscopic size and were not detected by the ordinary microscopic examination. In my case also the true nature of the disease was not discovered until the systematic laboratory examination had been made. Although removed nearly a year ago there has been no sign of a recurrence. Here are five cases of primary carcinoma of the appendix in 1026 appendectomies all unrecognized macroscopically. All the appendices were removed so early that the chances of non-recurrences are very good.

Purposely I have passed over with few comments that portion of our subject which I believe has been settled beyond doubt. Deaver, Ochsner, Kelly, and the testimony of other equally good surgeons, have proved that the appendix often becomes diseased through its close prox-

imity to diseased appendages and vice versa. Baldy is of a different opinion, but his statements lack proof. Microscopic sections in quite a few of the 200 cases in my series showed progressive involvement of the different layers of the wall of the appendix, beginning with the serosa and working inward. As far as the surgeon is concerned, it is immaterial whether this is exactly the same kind of inflammation as that where the morbid process starts with the mucosa. Suffice it for him to know that the appendix is diseased and may give rise to symptoms in a certain proportion of cases.

CONCLUSIONS.

1. Only a little over fifty per cent. of appendices removed during the course of operations for pelvic lesions will be found microscopically to be normal.
2. The remainder will show forms of acute and chronic inflammation or the result of former inflammation.
3. The average length of the appendix is between 8 and 9 centimeters. In 107 cases of the present series the average length was 8.25 centimeters.
4. The maximum length of the appendix is found between the ages of 20 and 30. After this period the average length of the appendix is less. While this diminution probably is in part due to normal atrophy, in a certain proportion of cases it is influenced by inflammatory changes.
5. Menstrual pain may be due to or enhanced by the presence of an inflamed appendix. The congestion incident to menstruation increases the inflammation and gives rise to attacks of appendiceal colic.
6. It is exceedingly difficult to differentiate between pain due to pelvic lesions and pain due to chronic appendicitis. In the present series of cases a much larger proportion of patients whose appendices were abnormal gave histories of having or having had this pain of doubtful origin.
7. The appendix is adherent twice as frequently in those cases where microscopic examination shows past or present disease. A certain proportion of adherent appendices are, however, perfectly normal microscopically.
8. Mere shape of the appendix cannot serve as an index of its normality or disease. Appendices may be club-shaped, constricted or bent upon themselves and yet be perfectly normal microscopically.
9. The appendix is the seat of fecal concretions in at least 8 per cent. of all cases. Their existence does not denote that the appendix is diseased.
10. Nearly 50 per cent. of patients with chronic disease of the appendages show accompanying disease of the appendix.
11. This inflammation may be the result of the direct contact of the appendix with diseased adnexa or infection may travel from the latter to the appendix through the lymphatics connecting the two.
12. In chronic disease of the appendages adhesions of the accompanying appendices are present in nearly 50 per cent. of the cases, where microscopic examination shows the latter to be diseased. In a certain proportion of cases, however, although the appendix may be adherent it is also perfectly normal.
13. In chronic disease of the appendages the appendix which is club-shaped, constricted or contains fecal concretions is not necessarily diseased.

14. In 50 per cent. of patients with uterine fibromata there is accompanying disease of the appendix.

15. In 70.9 per cent. of patients with ovarian cystomata the accompanying appendices are diseased. The appendix is not infrequently adherent to an ovarian cyst and may even infect the latter.

16. The ordinary median abdominal incision in the class of cases under consideration amply suffices for the removal of the appendix.

17. Such removal should neither increase the mortality nor prolong the convalescence.

18. Since it is impossible for the surgeon to determine which appendix is diseased by gross appearances alone, and since nearly 50 per cent. of appendices where the abdomen is opened for other purposes are found diseased microscopically—it is the surgeon's duty, in the absence of contraindications, to remove the appendix in every such case, otherwise he will leave behind diseased appendices which may prove a subsequent source of suffering to the patient.

19. Systematic examination of series of removed appendices show the occasional presence of primary carcinoma in such an early stage that it could not have been detected by inspection at the time of operation. Removal at this early stage means probably a nonrecurrence and the saving of a life. Even were carcinoma of the appendix not commoner than once out of 200 abdominal sections, it would still be an argument for the removal of the appendix in every case where the abdomen is opened for other purposes.

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SUCCINIC PEROXID—(ALPHOZONE).*

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Detroit.

Within recent years developments in pathology have shown^{*} that infection by micro-organisms must be considered as the chief etiologic factor of disease conditions. The importance of these developments cannot be overestimated, for through their instrumentality not only has the treatment of a great many disease processes been placed upon a rational basis but physicians have thereby been enabled to institute measures which are effective in their prevention.

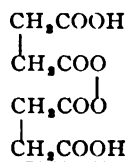
It is now an established fact that nearly all pathologic conditions of common occurrence are due either directly or indirectly to the action of pathogenic germs. The basic principle of rational treatment is: remove the cause and the effect will cease. This means, substantially, destroy the germs and a cure is effected. So long as the offending germs are present and active in the affected organ or tissues, just so long will the diseased condition persist. Hence, it follows, that we must look to measures that will destroy or inhibit the growth and multiplication of these micro-organisms as our best means of combating pathologic conditions in general.

This is my reason for bringing to your attention today succinic peroxid, a recently discovered chemical compound which is a powerful destroyer of disease germs and which bids fair to eclipse all other germicidal substances yet produced. It has so many desirable properties, I

firmly believe it will prove to be one of the most valuable of modern additions to the physician's armamentarium. This compound may have a number of technical names, such as succinic peroxid, disuccinyl peroxid, etc., but its simplest title, and the one by which the profession will know it best, is Alphozone. This latter, for the sake of simplicity, I will employ in this paper.

Alphozone was discovered by Prof. A. M. Clover, of the University of Michigan. Prof. Clover no doubt has devoted more research study to the chemistry of peroxids than any other chemist, and Alphozone is the outcome of his extensive investigations. Alphozone is an American product, through and through, and one to which we can point with pride. Germany is noted for her synthetic chemicals, so much so that a great many physicians have begun to believe that everything of the kind must of necessity be "made in Germany." It is true Germany has produced a large number of valuable compounds, many of which are extensively employed in this country, but this does not mean that American chemists cannot, in the field of chemistry, make discoveries of equal importance.

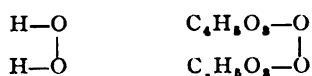
As the name "succinic peroxid" suggests, Alphozone is an organic peroxid and is derived from succinic acid. It has for its empiric formula, $C_8H_{10}O_8$, which may be written structurally, as follows:



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All peroxids are related in as much as they contain an unusually high percentage of oxygen. The simplest peroxid is hydrogen peroxid (H_2O_2) and with this you all are, doubtless, more or less familiar.

To show its chemical relation to hydrogen peroxid, Alphozone may be considered as being derived from hydrogen peroxid by the replacement of each atom of hydrogen in the molecule by a succinyl radicle ($\text{C}_4\text{H}_5\text{O}_3$). Thus:



There are numerous organic peroxids, but Alphozone is the only one that possesses, *per se*, any decided germicidal power. However, organic peroxids which in themselves are not germicidal develop this property after a time when dissolved in or mixed with water. They combine with a small portion of water and form new compounds. This change is known as hydrolysis and the products as hydrolytic products. The products formed are the corresponding acid and peracid. In the case of Alphozone the products of hydrolysis are succinic acid and succinic peracid. These peracids are all germicidal but vary in their potency. A great disadvantage in employing organic peroxids other than Alphozone is that hydrolysis takes place very slowly so that the germicidal property is not available until several hours have passed, and this necessitates the preparing of solutions some time before they are to be used.

The peracids on standing in solution for several days finally hydrolyze into the corresponding acid and hydrogen peroxid.

Alphozone closely approaches the ideal germicide, for, besides its high germi-

cidal value, it is soluble, colorless, stainless, odorless, is non-poisonous, non-volatile and practically non-irritating. It is non-explosive under the most rigid tests. It does not coagulate albumin. It is also non-corrosive to animal tissues and non-hygroscopic.

Alphozone is a fluffy, finely crystalline powder. It is, therefore, convenient to transport or carry and is always ready for instant use by simply dissolving it in water. Such solutions are clear and colorless.

The ready solubility of a germicidal substance is a very important quality and one which every physician fully appreciates. Solutions of Alphozone a hundred times too strong can be made in a short time, and those of a strength usually required can be made almost instantly. Solutions of Alphozone, it should be remembered, do not retain their strength indefinitely, owing to the hydrolysis which slowly takes place. Reduction in germicidal power is hardly noticeable up to nearly a week, the length of time depending upon the strength of solution. It is advisable to make solutions of Alphozone at the time they are required, for then they will be reliable in every instance.

A germicide in liquid form meets the most requirements of the physician and surgeon. A germicidal powder has a number of uses, but a germicide in the form of gas is of limited application. Alphozone may be used in two of these forms—liquid and powder. As a powder it may be used pure if required, or, for ordinary purposes, diluted with 10 to 100 parts of some suitable powder, such as boric acid, talcum, etc.

The nontoxic property of Alphozone is one of its important characteristics. This

nontoxicity is readily apparent when it is remembered that the ultimate products of the hydrolytic decomposition of Alphozone are succinic acid and hydrogen peroxid. Being such an innocuous chemical there need be no fear of untoward results from its general use, and for this reason it can be freely used internally as well as externally. Alphozone may be employed in place of almost all of the many germicides and antiseptics now in use. As it is odorless and stainless, it will most agreeably displace those having offensive odor, as well as those possessing staining properties.

The germicidal energy exerted by Alphozone is most surprising, and it is remarkable that a nontoxic germicide can be so energetic. In the minds of most physicians high germicidal value is associated with toxicity, but in Alphozone we have a substance that is not excelled in germicidal value, not even by mercury bichlorid. Being equally germicidal with mercury bichlorid, as comparative tests thus far indicate it to be, Alphozone can be used in every instance where this substance is indicated and also in every instance where the bichlorid would be desirable if it were not for its toxicity and easy absorption. Alphozone may be substituted for mercury bichlorid in every instance as a germicide and in the same strength solutions, as it has none of the prohibitive properties of the latter. Authoritative investigators state that the germicidal point for a 1-to-5000 mercuric chlorid solution is 15 minutes. It is found that the germicidal point for a 1-to-5000 Alphozone solution is 7.5 to 15 minutes.

One of our best known and most used germicides is carbolic acid. By the ratio of their germicidal value as evidenced by comparative tests, Alphozone is 75 times

stronger than carbolic acid. Besides this marked difference Alphozone has none of the undesirable properties of carbolic acid. It is not toxic or escharotic and, unlike the carbolic acid, is free from disagreeable and persistent odor. Alphozone is an advantageous substitute for carbolic acid in many of the general uses of the latter.

The popularity of hydrogen peroxid as a germicide is due to its ease of application, its nontoxicity, its being odorless, colorless, stainless, its slight irritating properties and to its quite marked germicidal value.

It was perhaps the most all-around satisfactory germicide up to the time of the discovery of Alphozone. Alphozone has *all* of the favorable properties of hydrogen peroxid and others that are characteristically individual. By a germicidal comparison, Alphozone is over 100 times stronger than *absolute* hydrogen peroxid. Repeated experiments, under the same conditions, prove that a solution of Alphozone 1 part in 7500 ($1/75$ of 1 per cent.) will kill typhoid bacilli in the same time that is required by 1 part in 66 ($1\frac{1}{2}$ per cent.) of absolute hydrogen peroxid. The action of Alphozone solutions upon pus and blood is much the same as that of hydrogen peroxid solutions, except the effervescence. There is a general belief among physicians that hydrogen peroxid destroys pus. This belief seems to be not well founded for test-tube experiments do not verify it. If 1 cubic centimeter of pure pus be placed in each of two test-tubes and to one be added 10 cubic centimeters of physiologic salt solution and to the other 10 cubic centimeters of a 3 per cent. hydrogen peroxid solution in small portions till effervescence ceases, shaking

both vigorously for a few minutes, then allowing them to settle, it will be found that there is about as much pus (as sediment) in the tube upon which the hydrogen peroxid acted as in the tube containing the salt solution in which there was no action, which quite conclusively shows that pus is not dissolved by hydrogen peroxid. In this experiment, using salt solution and hydrogen peroxid 100 times in excess, does not modify the results. This belief, that pus is destroyed by hydrogen peroxid, is probably based on the fact that the pus is displaced by the mechanical action of the escaping oxygen. This mechanical displacement is a cause for harm in confined spaces, as the pressure produced forces more or less of the pus and micro-organisms it contains into the surrounding tissue, thus increasing the infected area.

Blood is quickly decolorized by Alphozone solution. A drop of blood added to 10 cubic centimeters of a 1-to-1000 solution soon results in a nearly colorless mixture. If 1 cubic centimeter of defibrinated blood be added to 10 cubic centimeters of a 1 per cent. solution of Alphozone, it is changed to a clear, pale yellow solution. Alphozone solutions have more or less the bleaching properties of hydrogen peroxid.

Formaldehyd is at present considered one of our most valuable disinfectants. Its greatest value lies in the fact that it can be used in the gaseous form.

It is the belief of almost every physician that formaldehyd is intensely germicidal, but such belief is not well founded for, in truth, the 40 per cent. solution has about the same germicidal value as carbolic acid. Repeated tests prove that it requires 30 minutes for a 1 per cent. solution to kill *Staphylococci*

pyogenes aureus. A 1 per cent. solution of carbolic acid will kill the same germ in the same time. A 2 per cent. solution of formaldehyd and a 1/50 per cent. Alphozone, each, kill *staphylococci* in 10 minutes, or, in other words, a 1-to-10,000 Alphozone solution kills *staphylococci* in the same time as required by a 1-to-100 solution of formaldehyd. Therefore, Alphozone is germicidally 100 times stronger than formaldehyd (40 per cent. solution).

(Vanderlinder and De Buck state that corresponding solutions of formaldehyd are not more germicidal than carbolic acid.)

Comparing Alphozone with other well-known germicides, it can be said that it is six times stronger than silver nitrate, 25 times stronger than tricresol, 50 times stronger than lysol, 60 to 75 times stronger than creolin, 100 times stronger than potassium permanganate, 200 to 250 times stronger than salicylic acid, 350 times stronger than a solution of Seiler's tablets, (two tablets to the ounce), 400 times stronger than eucalyptol, 2500 times stronger than the listerine-like compounds.

From the foregoing it will be obvious that Alphozone has a wide field of usefulness, both in surgery and medicine.

Alphozone will be found a convenient agent for the sterilization of the hands, local surface areas, certain surgical instruments and appliances, dressings, sponges, rubber sheeting, etc.

For the sterilization of the hands, the method and suggestions by Welsh or Lockwood may be followed, substituting Alphozone for the bichlorid or biniodid of mercury. Controlled experiments following above suggestions gave disinfection of the hands. Local surface areas for

vaccination or for hypodermic injection may be quickly and thoroughly sterilized by a 1-to-500 to a 1-to-1000 solution.

Surgical instruments of metal or rubber may be sterilized by washing them or placing them in a proper solution of Alphozone. Controlled experiments carried out under conditions as near practical as possible, using a 24-hour bouillon culture of pus from a postoperative abscess, gave sterile instruments in less than a minute with 1-500 or 1-1000 solution of Alphozone. It is not advisable to leave instruments in Alphozone solutions for any great length of time, especially if there be any iron surface exposed, as Alphozone solutions are slightly acid and the salt formed is quickly oxidized and the surface may be attacked. Nickel, silver and rubber instruments will suffer no harm in Alphozone solutions.

In fact Alphozone is indicated wherever

pathogenic germs are present and it can be brought in contact with them.

It is useful in all inflammations of mucous membranes, in ulcers and abscesses that can be reached by germicidal solutions, erysipelas, tinea tonsurans, and other cutaneous infections.

It is of value in typhoid fever, infectious diarrhea and dysentery, cholera, and other gastrointestinal diseases of microbic origin.

Alphozone may be used as a surgical dusting powder or an insufflation, properly diluted. In solution it may be employed as a wash, spray, douche, gargle or injection. Combined with soft petrolatum, it forms an excellent ointment for many conditions.

Before closing, I wish to acknowledge my indebtedness to Mr. M. L. Trowbridge, of Detroit, for valuable data on the bacteriology of Alphozone drawn from his experiments.

CAUSE AND TREATMENT OF PUERPERAL ECLAMPSIA.*

A. N. COLLINS,
Detroit.

When your Secretary requested me to bring this well-worn subject before you, I confess I felt like begging to be excused—not that I deemed the subject unimportant, but because I could bring to you so little that is new, so little that is definite and satisfying, especially as to its etiology.

The importance of the subject is obvious to all. Its importance to the gen-

eral practitioner, who deals with by far the greater number of obstetrical cases, is probably second to none. That any one assuming to care for an obstetrical case should have a very clear conception of this condition, as well as the most successful methods of meeting this virulent malady, cannot be denied. We trust we may be pardoned for reviewing this subject, though worn threadbare, when we are compelled to record a mortality of from 20 to 35 per cent. of all mothers, and a mortality of about 50 per cent. of all children who are attacked by this malady—a mortality which I feel sure

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could and should be very greatly reduced were there a more general practice of what is already known and proven.

Eclampsia, or the auto-intoxication of pregnancy, has been, is and will still continue to be, one of the greatest causes of anxiety to the obstetrician.

An acute, morbid condition, manifesting itself during pregnancy, labor, or the puerperal state, by one or more convulsions, affecting first the voluntary, and secondly the involuntary muscles, complete loss of consciousness ending in coma, often death, we term *Eclampsia*. The condition upon which it depends we term the auto-intoxication of pregnancy.

The time of the appearance of eclampsia in relation to labor is somewhat in dispute, but observations seem to prove that more seizures are recorded late in the period of gestation than during or succeeding labor. Undoubtedly the condition of auto-intoxication and especially the convulsions, tend to precipitate the labor, and cases really belonging to the late gestation period become synchronous with those of the period of labor.

Whatever the period of the explosion, the cause remains the same. It is only in treatment that the period has significance. Most competent observers place the greater number of seizures in the late gestation period, less in the period of labor, and least in the period succeeding the emptying of the uterus.

Estimates of the frequency of the occurrence of this malady vary. In tabulating records covering 46,000 cases, statistics from Dresden, Paris, Prague and Boston, it occurred in 363 cases, a ratio of one case to every 126 pregnancies.

The ratio varies greatly at different times. In Tarniers' clinic, in 1872, it oc-

curred once in every 47 pregnancies, as compared with one case in 730 labors in 1882, and one case in every 130 labors in 1891.

A disease in which the mortality ranges from 20 to 35 per cent. (and many statistics as high as 40 per cent.) in the mother, and about 50 per cent. in the children, occurring in about every 125 cases of pregnancy, cannot but impress us as a most serious condition, worthy our best efforts to make in the future a better showing than we have made in the past.

The gravity of this affection renders a study of the causes which underlie this serious malady of paramount importance. It is indeed lamentable that I am not able to bring before you in the present state of our knowledge, a definite, satisfactory, rational etiology.

So far nearly all our working has been based upon mere theories, unproven suppositions, and more or less reasonable hypothesis. There is much work still to be done on this subject before we arrive at the solution of the problems: Whence comes this virulent disturber? How or where is it produced? Why, only in pregnancy? What organs do too much or too little? Where is the physiological activity which becomes deranged, resulting in the development of this ferment, substance, toxin or accumulation—call it what you will—that so demoralizes the normal functions of the metabolic and eliminating organs, resulting in this pathological cyclone, which deranges and destroys the fine machinery of existence?

In the obscurity now surrounding the causes of this auto-intoxication, we cannot do better than glance at the various theories and ideas that have obtained.

Very early, in the twilight of our science, the attendant witnessing the con-

tortions and agony of a victim in the grasp of this malady, easily solved the problem by the prevalent idea of devilish possession. If swine could be seized with madness through occupation by his satanic majesty, and dash frantically into the sea, why not woman? Both were considered of about equal importance in the theological sophistry of that time.

Witches, too, came in for their share of abuse, and the person who had been guilty of thus bewitching the sufferer was diligently sought that they might be burned at the stake—drawn and quartered, or gently hanged, according to the benignant theology of that time.

Undoubtedly the earlier observers placed more stress upon mechanical causes than has obtained since the time of Bouchard, who insisted that all pregnant women suffer more or less from an auto-intoxication, the result of retention of certain poisonous substances in the blood, holding that there is an increased toxicity of the blood serum and a decrease in the toxicity of the urine. These statements have not been satisfactorily proven.

Among the mechanical causes we may mention pressure of the gravid uterus upon the afferent and efferent blood vessels of the kidneys—pressure upon the ureter, thus interfering with the normal function of the great filter, crippling the kidney until it is unable to rid the system of many deleterious and poisonous products.

Pressure upon the aorta and vena cava, with its influence upon the proper functions of both liver and kidneys.

Pressure upon the splanchnic nerves, thus destroying the normal relation between metabolism and elimination.

Deleterious substances in the blood—

ammonuria, hydremia, acetonuria, extractive matter found in the urine, normally but retained in the blood in pregnancy.

Ludwig and Savor believe that the auto-intoxication is caused by a ferment originating in metabolic processes, not showing itself in the organism during gestation on account of the processes of metabolism, eclamptic symptoms expressing the action of the ferment. After the convulsion the ferment is removed by the kidneys. The exact origin of this ferment, whether it depends upon the hepatic lesions or whether it offers a connecting link in the synthesis of urine, can be cleared up only by further experimental work. They believe the offending substance to be carbamic acid.

At an early period it was considered a disorder of the nervous system. That the nervous system in pregnancy is in an unstable state seems proven. Convulsions in pregnant animals could be produced by less quantity of creatinin, powdered upon the cerebral cortex, than in unimpregnated animals. This theory has recently been revived by Herff.

Leves identified eclampsia with uremia. His conclusions were only slowly abandoned, as further investigation proved that the two conditions had but little in common.

Undoubtedly the theories of Bouchard have been productive of greatest results. His theory of auto-intoxication and retention of poisonous material, came nearer an explanation of the phenomena of eclampsia than any prior theory.

Ludwig and Savor believe the intoxication due to the products of foetal metabolism—that these products added to the normal maternal products overtaxed the eliminating powers of the mother, thereby

permitting an accumulation of poisonous products, producing the explosion.

From this mass of theory we may summarize at present by stating that we have presumptive evidence of some poisonous substance circulating in the blood, which gives rise to numerous thromboses in the smaller vessels, with consequent necrosis and foci of degeneration in the various organs—notably the liver and kidneys—and that these thrombotic necroses markedly impair the metabolic and eliminant activities of those organs, thus further and further heaping up the deleterious poisonous substances, establishing a vicious circle of imperfect metabolism and imperfect elimination which results in the phenomena of eclampsia.

We are ignorant of the nature, source, mode of action or type of this poisonous substance; also, that this poisonous substance really exists from the experimental evidence thus far adduced, we are not sure that we have any such poisonous circulating factor. We cannot prove it as yet.

Notwithstanding this frank confession of ignorance, there is much of value, practically, in our clinical knowledge of this disease.

Predisposing Causes.—Among the predisposing causes we may place easily first and foremost any impairment of the renal filter. We have presumptive evidence of a toxemia—elimination must rid the system of this poison.

As exciting causes or causes tending to embarrass this renal filter, we have all diseases of the kidneys.

Pressure upon the ureters and blood vessels, as in hydramnios—twin pregnancies, or retention of urine. Since a growing foetus is the one absolute condition of eclampsia we must conclude its

genesis in utero contains the potential of eclampsia.

Statistics show an occurrence of eclampsia in 11 per cent. of multiple pregnancies, as compared with one and one-tenth per cent. in single pregnancies, while a further proof of the effect of pressure is shown by statistics of pregnancies in extreme youth or extreme age, owing to the rigidity of the muscles and limited pelvic and abdominal space in these cases. The proportion of eclamptic primipare to multipare is as 3 to 1.

The exciting causes, when the characteristic toxemia is present are usually abrupt suppression of the urine—partial or complete—constipation, painful uterine contractions, rigidity of the os, or introitus vaginæ in primiparæ, excessive emotions, or any decided nervous shock or emotional disturbance.

Although the pathology of this disease is not under discussion, a hasty glance is necessary if our discussion of treatment be logical. Pathology and treatment cannot well be separated in this or any other disease, if we are to avoid the empiricism of the past.

Not infrequently are found no changes in the brain, cord, chest or abdomen. When found in the brain, they consist of hyperemia of the brain and membranes with serous infiltration, apoplexy of the brain and membranes, or meningitis. Anemia of the brain is sometimes found.

Oedema of the lungs often causes death. In the kidneys we find significant and noteworthy changes ranging from hyperemia to the second stage of nephritis. Seldom have the changes gone on to the third or atropic stage.

The kidneys are almost always diseased. Schmorl held 73 autopsies; he found diseased kidneys in 72. Glocker in

368 cases found diseased kidneys in 361 of the 368 cases.

A striking feature is that these changes are not inflammatory, but degenerative changes in the tubular epithelium, cloudy swelling, fatty degeneration and local necroses.

Thrombi, hyaline and fibrinous are often found in the glomeruli.

Changes in the liver are most important, ranking second only to the kidney changes.

Glocker found 20 characteristic changes in 26 autopsies.

In Schmorl's 73 cases, he found 71 cases in which the liver showed the characteristic pathology, which consists of enlargement, superficial yellow spots and stripes, large red patches; in the center are necrotic liver epithelium, degenerated red blood cells; in the capillaries and small portal vessels are found. Thrombi-anæmic necroses of the liver epithelium are also found.

In other organs are found these thrombi and degenerative changes. Schmorl in his 73 autopsies found thrombi present in the lungs in 66 cases—hemorrhages and softening in the brain in 65.

Winckler found in six out of seven autopsies minute hemorrhages and softening. In the heart Schmorl found minute hemorrhages, accompanied by necrotic cells in 42 of the 73 cases. Hemorrhages and necrotic spots are frequent in the suprarenals and pancreas, as well as in the gastro-intestinal tract. Often are found not only capillary thrombi, but emboli of cells from distant organs or structures. Giant placental cell emboli are sometimes found in the liver.

Such is the horrible state of affairs in this disease, as shown by the pathology.

Can any sane man look at this pathology and expect brilliant results from any known medicine or method, however or whatever given or done, when once these changes have been wrought? From the pathology and from the fearful mortality, we conclude treatment never can nor never has been but moderately successful, when once the eclamptic seizure is upon us. What we do to be of value must be done prior to these marked destructive changes. Whenever they have taken place we are powerless in many cases. In the presence of the convulsion previous to or during labor, to arrest the convulsion is obviously our first indication. Chloroform, morphine, chloral hydrate, and veratrum viride have found most favor. Chloroform is most efficient, arresting the convulsion and giving us time to formulate a plan of further action, which depends upon the character of the case to a large extent. No routine treatment can be followed in these cases. To arrest the convulsion is imperative, to prevent a recurrence if possible, our aim. One convulsion may be fatal. The danger increases with each succeeding seizure, its gravity being marked by the length of the period of unconsciousness succeeding the spasm. Some authorities state that 18 seizures are always fatal; others place the number as high as 30. To eliminate the poison as rapidly as possible and arrest the accumulation is our plain duty. In the majority of cases but one procedure does this effectively. Emptying the uterine contents as rapidly as possible, without injury to the maternal structure, promises more in saving the life of both mother and child, than all other means known. Fortunately in most cases, the labor sets in before or at the time of the seizure. In these cases

our pathway is well marked—there need be no hesitation. After controlling the spasm with chloroform, proceed to deliver with due regard to the well known principles of rapid delivery. If we can succeed in evacuating the uterus, we have removed our patient from a class in which 20 to 35 per cent. die, to a class in which good observers state that the convulsions cease immediately or soon after delivery in about 94 per cent. of cases. In primiparae, and in some other cases, rapid delivery cannot safely be done, but they are few, and should not weigh against this efficient procedure when it can be done safely. Careful dilation with the hand is usually efficient to relax the os to a point of safe delivery. No doubt cases where the cervix is not obliterated, where there is rigidity of the internal os, will compel the selection of the expectant plan of waiting until the uterus can be safely emptied or the vaginal Cæsarean section performed. As soon as possible the eliminating organs should be made to do all the work possible. Free catharsis with croton oil, calomel, compound jalap powder, saline, subcutaneous and rectal injections, dry hot bath, hot pack, venesection, replacing the blood with normal saline solution, all may become a part of the active treatment of these cases. Veratrum viride deserves a high place in the treatment of the seizures. 10 to 20 M. of a reliable fl. ex. hypodermically, repeated every half hour till the pulse rate falls to 60, will usually prevent the seizure. It relaxes the spasm of the arterioles, and acts as a diuretic. It is of most value in the sthenic cases. Caution should be observed in keeping the patient in the recumbent position when using this powerful drug. It has proven to be of great value in all cases. Many

place it first in the list of remedies. Personally, I believe it our *most valuable* drug at present.

Chloral hydrate well diluted, by mouth or by rectum, is very often used and has undoubted merit. Morphine in proper cases has met with great favor by many reliable observers. It has also met with much opposition. It is given in large doses to control the spasm, and relax the arterial tension. It seems to prolong the post eclamptic stupor, a result certainly not to be desired. There can be no doubt, in properly selected cases, of its value.

Sulphate of magnesia by high rectal injection in solution, irrigation of the bowel with warm saline solution, drinking when possible large quantities of saline water, all tend to assist in the elimination so much needed.

Oxygen as a general stimulant to assist the eliminating function of the lungs, to sustain life in the post eclamptic stupor, is by some pronounced invaluable. Venesection has proven of value.

It seems certain that with prompt treatment much can be done in these cases, but in view of the changes already wrought, no method of procedure will avail in many cases when once the eclampsia is upon us.

In proper prophylaxis, in anticipating this condition, we must do our best work. The prophylactic treatment becomes really the most practical part of our study. By careful observation of the pregnant woman, we have in the great majority of cases fair warning of the creeping on of this auto-intoxication which leads to eclampsia with its dangers and uncontrollable tendencies. The effectual treatment of eclampsia must be before the auto-intoxication and degenerative changes have gotten beyond our control.

If we instruct our patients as early as the fourth month of gestation in regard to diet and the necessity of careful examination of the quality and quantity of the urine at stated intervals, these intervals being shorter, as gestation approaches full term, we can almost positively escape eclampsia in cases that employ us early and who are of average intelligence. No doubt some cases give very little evidence of this auto-intoxication, but they are fortunately very few who do not. Among the more certain and constant signs of this auto-intoxication of pregnancy, we have deficient elimination of urea, albuminuria, and a train of symptoms accompanying the condition—a certain amount of headache, nausea in the later stages, flashes of light, sometimes oedema, constipation, sleeplessness, ocular disturbances, such as flashes of light, vertigo, faintness, anemia, rapid and irritable heart action, all of which or any of which should put us on our guard.

Usually our first significant observation will be a decrease in the quantity of the urine, often showing albumen, and always showing a deficiency of nitrogen, practically demonstrated by the quantity of urea, urine of low specific gravity, unless a large amount is passed, should at once make us suspicious. Observing these symptoms, highly nitrogenized food, such as meat and eggs, should be avoided, milk substituted, the bowels and skin kept active, large quantities of water injected, and the whole eliminative apparatus put in as active condition as possible. Under appropriate care and treatment, many cases will clear up, the albumen practically disappears, the elimination regains its normal, and the sub-

jective and objective symptoms are relieved.

If by our treatment we cannot abate these symptoms, if they persist and grow more marked, we should not hesitate to induce premature labor, waiting till the child is viable, if possible and safe, but never unduly jeopardizing the mother's life to save a child which, if we permit the condition to go on, has but a slight chance of ever being born alive.

This treatment will reduce the mortality in pregnancy from this fatal malady in two ways, by decreasing the number of cases of eclampsia per thousand to very few of those applying for treatment, and diffuse a much needed knowledge of this condition among the laity, increasing the number of those who apply early for the physician's care, not only for the actual confinement, but what is fully as important, a proper preparation for that event.

TO RECAPITULATE.

Eclampsia is a preventable disease. When not prevented it is an incurable disease in from 20 to 35 per cent. of the mothers attacked, and from 30 to 50 per cent. of the children. It is due to an auto-intoxication, which can be detected by careful examination of the urine in nearly all cases in time to avoid the dangers of eclampsia. No matter what treatment is instituted, many cases will continue to approach the danger point, unless we terminate the pregnancy prematurely. We should wait, if practical, till the child is viable before terminating the pregnancy. We should terminate the pregnancy regardless of the viability of the child in urgent cases, as our only efficient means of curing the disease.

ECLAMPSIA AND VAGINAL CÆSAREAN SECTION.*

J. H. CARSTENS,

Detroit.

Puerperal eclampsia is such a terrible disease and comes on so suddenly and often unexpectedly that the most prompt, energetic and heroic treatment is necessary in many cases to save the patient.

It is not only the danger of death in these cases, but also the especial liability of permanent injury of some of the special senses, that necessitates prompt action. Many cases have their eye sight injured; some even have progressive atrophy of the optic nerve. Some lose the sense of smell; some have paralysis of certain muscles as a sequel.

Hence, all around, it is the most serious condition occurring in the puerperal state. The many other papers on that subject cover the cause, general management and medical treatment of these cases, so I will only take up the surgical side of the question.

Mild attacks of eclampsia are readily controlled by medication and other treatment which is used to remove the cause, or to terminate labor at leisure. The kind I want to refer to is, that severe variety characterized by a series of convulsions recurring every fifteen to thirty minutes or an hour, accompanied by the most profound coma and not relieved by medication. The patient continues in this state for 12, 24 or 48 hours and finally dies undelivered. Sometimes even labor sets in and by manual effort, dilatation with rubber bags, your hand, or steel di-

lator, labor can be sometimes finished in a short time. In puerperal eclampsia it has been found that the convulsions cease as soon as the labor is completed. There are exceptional cases where the convulsions still recur afterwards although mild, and there are still other cases, though very rare, where attacks do not come on until after labor is finished. Hence the great object should be to finish labor as quickly as possible. An hour, half-an-hour, minutes even may be of importance in saving the patient's life or some vital part of the body.

This can be most easily accomplished by classical Cæsarean section that has been recommended and employed, but as this Cæsarean section is more or less difficult. Duhrsen has recommended what he calls "Vaginal Cæsarean Section"—opening the cervix sufficiently to be able to apply forceps or deliver by version. This is an operation not difficult and not dangerous, and can be carried out by any general practitioner and delivery accomplished in five or ten minutes.

The operation is performed as follows: An incision is made at the junction of the cervix and the bladder, transversely across about an inch or 1½ inches in length down to the uterine muscles. With the handle of a knife the bladder can be easily separated and lifted up for an inch or two inches. The peritoneum is not opened. The cervix is grasped on one side with vulsellum forceps, or what is better, with one on each side. The cervix is now cut from without inward as near the median line as possible, up to the internal os, or a little farther. If you stick

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to the median line there will be very little hemorrhage, but if you get on one side or the other there seems to be a good deal more. The uterus being opened you can easily turn or apply the forceps and deliver in a few minutes. If the incision is not long enough you can increase it. The placenta can then be removed by inserting the hand. I have used hypodermic of ergot, as a rule, before I start the operation or use the chloroform, so as to get good contractions as soon as the fœtus is removed. When the uterus is emptied it can be easily pulled out of the vulva. Catgut sutures (or for that matter any other kind) are used to sew up the opening and stop the hemorrhage. The little oozing that has taken place with the first cut through the mucous membrane at the junction of the bladder and uterus has stopped by this time, and a few sutures introduced to close up the mucous membrane. The whole operation should not last more than 15 minutes. The little hemorrhage, that you can readily control, will do no harm as you have not opened the peritoneal cavity and your patient has been promptly delivered and the convulsions cease.

In conclusion I simply want to make these points:

1. Severe continuous puerperal convulsions are often fatal or leave serious sequelæ, hence require the most heroic treatment.
2. Vaginal Cæsarean section enables the accoucher to deliver promptly.
3. Prompt delivery affords the best, in fact, only chance for success.

DISCUSSION ON THE PAPERS OF DRs. COLLINS AND CARSTENS.

J. J. Mulheron, Detroit: I would not mystify this subject any more by attempting to review the pathology of the affection. It is a

notorious fact that puerperal eclampsia is one of the least understood, or the most misunderstood, of diseases. Dr. Collins has gone over the field and given us the various theories which have, from time to time, been advanced, and you cannot have failed to notice from his review how mixed we are on this subject.

I want to take exception to one remark that he made, particularly with regard to the observations made by Ludwig and Savor. I think the doctor has misunderstood the conclusions of these gentlemen. He says they attributed the source of the materies morbi to the fœtus. It was my fortune to be present during a considerable portion of the time with Ludwig and Savor when they were making these observations, and that was not the conclusion that they then reached. They regarded that as one of the possible sources of the poison, but they were inclined rather to believe the origin was through some disturbance of metabolism, in which the liver was chiefly at fault. I remember the enthusiasm with which they entered upon the subject, and the amount of material they had at their disposal. At the lying-in hospital at Vienna they average fifty cases of labor a day, and the aggregate of eclampsia occurring there is very large.

Another point is, Dr. Collins' declaration that puerperal eclampsia is a preventable disease. I take exception to this statement. I think cases will occur occasionally where every precaution will fail in preventing an onset of the attack. I want to report one case as an illustration. A number of gentlemen will remember the very interesting paper which Dr. Bonafield, of Cincinnati, read before the Wayne County Medical Society, in which he advanced the idea that veratrum viride is almost a specific in puerperal eclampsia. I had at that time a patient under my care, who had been sent to Detroit from Chatham, Ontario, where she had developed symptoms of the disease. The physicians she consulted at Chatham advised that she be immediately taken to the hospital and prematurely delivered. The symptoms, in their judgment, were so threatening as to demand immediate interference. She did not like the idea and coming to Detroit I was engaged to take care of her. I found the secretion of urine down to six ounces in twenty-four hours. I put her on Basham's mixture, fed her buttermilk or skimmed milk, and was fortunate at the end of a week in increasing the secretion to twenty-four ounces and later it went up as high as twenty-eight ounces. The woman went along, and every symptom of favorable outcome developed. She went

a little over the time she was expected for confinement. I was sent for when labor set in and got there about eight o'clock in the evening. At four o'clock in the morning I delivered her of a boy (the child weighing fully eight pounds) without the slightest untoward complication. You can understand I was very apprehensive of a convulsion, and applied the forceps just as soon as dilatation was complete, no difficulty being experienced in delivering her. Everything was very promising, and all supposed we had averted a catastrophe. I called around the same day at ten o'clock and found everything doing very nicely. Everybody was pleased, as the case was a peculiar one, and a great deal depended upon the birth of the child. At nine o'clock p. m. I was sent for. I did not happen to be in. Dr. Lake, of our city, who lives in the neighborhood, was called and when I got home about eleven o'clock I went down and found Dr. Lake in attendance on a case of violent puerperal eclampsia. He had given a dose of croton oil, had erected a tent over the bed and was applying hot dry air. He had given three twenty-drop doses of *veratrum viride*. I entered the room just as the woman was having a convulsion. There had been no cessation as the result of the treatment. It was the ninth case of puerperal convulsions which it had been my fortune to treat. In the eight previous cases I was fortunate in having a recovery in each case. I had never seen a fatal case of puerperal eclampsia, which was certainly a singular run of good luck. My treatment had always been venesection. I immediately opened the vein in the woman's arm and withdrew twenty ounces of blood. The convulsions ceased immediately. I left again about four o'clock in the morning, and left the woman sleeping nicely. Called around the next morning about nine o'clock and found her bright and cheerful, mind perfectly clear, very happy and everything promising well. At nine o'clock that same night I was again summoned and found the woman in a violent convulsion and in a comatose condition from which she did not recover.

Now here was a case in which every known precaution had been taken, and the eclampsia was not averted; a case in which labor was normal, practically, and in which the emptying of the uterus did not avail towards the averting of the catastrophe. So that while Dr. Collins' remarks may, in a general way, be correct, I mention this striking case, which has just happened in my experience, to illustrate the possibility of exceptions to what may be a very general rule.

Mortimer Willson, Port Huron: I wish to express my appreciation of these two papers,

and very briefly to relate a case which came under my observation, to which I was called in 1902 by Dr. W. P. Derck, of Marysville. He knew nothing of the history of the case; he had not seen her since conception until they sent for him one evening and said the woman had become blind. He went to see the patient, and while he was making a slight examination she had violent convulsions. She had not had one before she became suddenly blind. He sent for me. I was there in about an hour. I took a lamp and went to the bedside and held it before her eyes, and said, "Can you see anything?" She said "No." I said, "Can't you see a lamp?" She said, "No." While making a slight examination, she again passed into a violent convulsion. Dr. Derck gave her chloroform—it was about the seventh month or a little beyond probably—he gave her chloroform, and in about 45 minutes, by rapid dilation, I delivered the woman. The child had been living that afternoon, but on account of the convulsions or the violence of the poison the child was dead when born. In sixty hours she had regained normal vision, had no recurrence of eclampsia, has had no trouble with the vision since. I have had to deliver quite a number prematurely, both those who had not had eclampsia and those who had. Of course, in my own practice, if I find the nitrogenous waste or elimination falling below a certain standard which is considered the critical point, I do not wait for eclampsia, but simply deliver them. I have never had a case that demanded the pelvic or vaginal cesarean section. I think under chloroform, in any case I have ever seen myself, rapid dilatation with the finger can be accomplished and within an hour delivery effected. There may be cases in which this cannot be done, but all that I have ever seen can be managed in that way.

H. W. Longyear, Detroit: I shall not attempt to discuss the etiology and pathology of the disease which the doctor has so well given us in his paper.

There is one point of treatment that seems to me it might be well to farther emphasize, although the doctor emphasized it pretty well also, and that is the treatment to prevent convulsions. As he has very well said, that is what we have to do, principally, in these cases, and I think that is what he meant when he said it was a preventable disease. That can only be done by frequent examinations of the urine, and patients must have it impressed on their mind; they must bring it for examination during the last three months

of pregnancy, and if a trace of albumen is found that urine must be examined daily—not for the amount of albumen at all, but for the amount of urea. If you find that the specific gravity is running down in the daily amount, get the quantity and percentage of urea. If you find it getting down to the danger line, and you cannot by those methods of medication, diet, etc., which are often sufficient—if you cannot bring that urea up—you should not wait. If it gets down to the danger point, say for one, or two, or possibly three days, the woman should be delivered without delay. I deliver always, in such cases, and do not wait, because if you do in nine cases out of ten you will soon be handicapped, and will have to deliver her in convulsions, when the danger to her life as well as the child's is so well known. I think that is the point the paper should bring out more than anything else. For treatment to prevent convulsions in that stage of gestation, we should watch the urine carefully, and it can be done accurately by daily examination, when you find that albumen is present. I believe that in the convulsions *veratrum veride* is valuable as a remedy. Watched carefully you can bring the pulse to 45. If you find the pulse is getting too weak, it is easy to bring it up by a little alcoholic stimulant. It will respond almost immediately to a dose of brandy. Watching it that way and keeping the pulse down you can frequently stop convulsions by that treatment alone. Then the application of heat I think is valuable—building a tent over the patient and getting up perspiration. Where you get these extreme cases that Dr. Carstens spoke of, with a rigid os, when you cannot dilate, as Dr. Willson said, if you can do it with your hands that is all right. If you cannot, you have to use something more powerful. When you get to this point, when you have to come to the consideration of that, I think the Bossi dilator is all right in a good many cases, and that can be used by most any one. But the assertion of Dr. Carstens that the general practitioner can do a vaginal cesarean section is too broad. The doctor is so expert and so accustomed to his work that he thinks anybody ought to do it because it is so simple for him; but the general practitioner cannot do it. Once in a while you might find one that knows something about surgery that can do it, but the average practitioner would

make a bungling job of it. I think you all know that. I don't think that statement should go out unqualified. The Bossi dilator he can use. I agree that it makes a tear of the cervix and considerable bruising, but we find that to be the case frequently in normal labor. But the Bossi dilator can be used by the general practitioner, and I believe it would be safer for him to use that than for him to make the vaginal cesarean section, which I believe is a proper operation in the hands of a skilful operator.

H. W. Yates, Detroit: I was glad to hear Dr. Longyear bring out the point in regard to the specific gravity of the urine. We may often have a normal amount of urine eliminated and a very small or deficient amount of solids. In consequence of this I believe our test should be one for the specific gravity as being much more important than one as to absolute quantity. More than that, we should frequently have microscopic examinations made to ascertain whether or not there are old kidney lesions. As up to this treatment, this thought occurs to me: Take a woman whom we know has a chronic interstitial nephritis and suppose she become pregnant. What should be our attitude towards her pregnant state? Now I believe it is conceded that pregnancy does endanger a woman who is suffering from a chronic interstitial kidney trouble. If that is so—if this trouble is increased by it—she never returns to the condition in which she was before pregnancy occurred. Moreover, the interstitial deposits will gradually become worse as pregnancy continues. Therefore, as a prophylactic to eclampsia, as a preventative of eclampsia, as Dr. Collins has put it, I believe that we are on right grounds when given such a case and knowing the circumstances connected with it, to empty that uterus at once. I believe it is wrong, knowing that the interstitial trouble goes on and on and leaves the patient in a worse condition than she was at first, to leave that uterus unemptied. I know there are many who will take exception to that on the grounds of infanticide. If pregnancy is allowed to go on and eclampsia develops death of the fœtus takes place in the majority of those cases with great danger to the mother.

James E. Davis, Detroit: I would like to ask Dr. Collins in closing the discussion if he would develop the point brought out by

Dr. Yates, and tell us what class of symptoms we might find in cases that would be prone to eclampsia, so that we could be able to advise such patients against becoming pregnant. As I understood Dr. Collins' paper he stated that every case might be cured if the pathological conditions had not proceeded too far. It seems to me that this point as brought out is exceedingly important, for if the uterus is emptied early enough and proper treatment instituted, then we can expect good results, but if we wait until the pathological conditions have continued so far that irreparable damage has been done, then we will not obtain good results.

Another good point brought out by Dr. Mulheron, is the value of venesection. But the employment of *veratrum veride* is yet better, for it substitutes the blood-letting, and the patient is bled into her own veins, which thereby conserves that amount of blood and accomplishes the same purpose.

Albert Patterson, Grand Rapids: It is not my purpose to attempt to enlarge upon the papers, but to emphasize some particular points. It has been my unfortunate experience to meet several cases of eclampsia. One case I recall where the patient lost her eyesight. Under the advice of the physician I induced labor at six months, and she was delivered without untoward symptoms—no sign of eclampsia. A little over a year she was pregnant again and went to full time and had eclampsia and died within a short time after having a few spasms. During the last two years I have had two cases in which I had opportunity to watch them from time to time. I saw them early, I limited their diet, advised a reasonable amount of exercise, baths, and carefully watched the urine from week to week. I carried them eight months and then induced labor and delivered them. Both women and babies are healthy. The babies were small, but I could deliver them rapidly because they were small. Both women had convulsions. One had three—one before I delivered her, two afterwards. After the third convulsion I bled her, probably taking 16 to 18 ounces, and she had no more convulsions. The other case I chloroformed immediately, dilated with my hand, and delivered under chloroform. She had only one convulsion. The condition of the urine should be carefully watched in every case of pregnancy.

A. N. Collins, Detroit: In regard to Dr. Mulheron's case, I think it is exceedingly interesting. Ludwig and Savor state that the increased elimination brought about by the fœtus, had undoubtedly much to do with more matter to be eliminated than the structures could eliminate. That there was a condition depending upon the fœtus was the assertion I made. You may have pressure of every kind, so far as mechanical conditions are concerned, and you never get puerperal eclampsia unless there be a fœtus present.

Can we avoid the conclusion that the thing is dependent upon the life history of the fœtus?

In Dr. Mulheron's unfortunate case, if I did not know him so well, and know what an excellent practitioner he is, I might draw my own conclusions, if this case came to him as a suspicious case. He increased the quantity of urine, but had he carefully made, from day to day, a curve of the urea that emanated, I am afraid he would have found that curve was at a low point about the time she was delivered. That case when she came to him first, without all of these pathological changes which our postmortems have shown us do occur—and which it was the purpose of my paper to get us to stop before they do come, and to show the hopelessness when they are present—those changes ought not to have gone on. That case was a preventable case, as I asserted, had labor been brought on timely and early enough. That very case cited as one that was not preventable, was a preventable case. Any case in which labor can be brought on early enough is a preventable case. It is our business to know when it should be brought on.

Dr. Davis asked what are the symptoms to warrant us in bringing on labor. In the amount of urea eliminated I believe we have the best symptom. When you first detect this deficient elimination, when you first begin to get restlessness, sleeplessness, headache, flashes of light, and anemia, and as a rule pallor, you begin your treatment, and for a short time it is sufficient if you increase the quantity of elimination and the specific gravity of your urine. After a little the treatment ceases to avail; it goes the other way. After it has been modified by treatment everything is well for a time, and then again it goes the other way. You will find that to get the second effect from the treat-

ment is very difficult. It is then when we fail to get that second reaction, that we should bring about labor. The liver and kidneys are in a condition where they are beyond our control in a great many cases. We should not permit our cases to get beyond our control. I still assert that it is a preventable disease. This case cited was a preventable case had it been followed along in that way. Now it is a fact that very many of those cases that have spasms, and convulsions, die of ruptured blood vessels or apoplexy. What can you do with a ruptured blood vessel in the brain? The coma comes on, they will develop high fever, and will die. I assert again, those cases are preventable if they get under our observation at the proper time and if we do what we ought to do. A case ought not to get to that point where it is beyond our control, as it is a preventable condition. Our warning should be, as I say, when our treatment fails to do what it should have done; it is then that a case gets beyond our reach. Many cases will get well, but we do not know which will get well or which will die. If we watch the urine and if we have facilities to get to them, it is a preventable disease, and it is the business of the physician to stop them.

J. H. Carstens, Detroit: I want to say I strongly endorse, on the general subject, what Dr. Collins says. I think patients do not come to see the doctor soon enough. They wait until the last minute, when we are virtually helpless. We want to wait until the child is viable, if possible, but if not viable and the case progresses, there is only one thing to do, and that is, induce labor, and that we must do. It may take 12 or 24 hours, but that woman will not be safe until she is delivered and all the serious consequences prevented.

In reference to what I stated about the vaginal Cesarean section, my jocose friend from Grand Rapids may laugh all he likes, it has no effect on me. I am trying to teach the general practitioner something, not tell you what I can do. I know they can do it. There may be some little timidity, and their hand may tremble a little, but it takes pluck to practice medicine. To make that cut and shove up the bladder, they can do it, if they make up their mind, and there is a patient who is almost sure to die. You don't know, as Dr. Collins says, whether the third convulsion will kill her or the first make her blind. You can all do it, every one of you. Just make a cut in the cervix. The uterus can be abused more than any other organ in the body, and does stand abuse right along.

PNEUMONIA IN CHILDREN.*

LOREN CURTISS,

Paw Paw.

It goes without saying that every sick child's lungs should be thoroughly examined to eliminate the possibility of pneumonia.

It was found among seven hundred and twenty-six consecutive autopsies at the New York Infant Asylum, that three hundred and twenty-two patients died of

pneumonia, one hundred and eighty-nine of stomach and intestinal diseases. One is apt to get the idea that the stomach and bowels cause most of the trouble in early childhood; but the lungs are attacked more often than any other organ. No attempt is made in this paper to differentiate the different forms of pneumonia in regard to treatment, for, according to Jacobi, nearly all the pneumonias of childhood have the pneumococcus present and nearly all are preceded by bronchitis. Only in the matter of prognosis does the

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differentiation seem to be of any practical value, for a lobular pneumonia is liable to be so long in its course as to make the outcome uncertain.

Anything that reduces the resisting power of the child's body predisposes it to pneumonia.

Carmichael says that "Pathologically as well as clinically, the study of acute pneumonia in childhood is beset with many difficulties. The pneumonic types are not so clearly defined as in the adult and differentiation is often most difficult."

Both a lobar catarrhal pneumonia and a primary acute broncho pneumonia are often met with in children.

The majority of pneumonias not preceded by bronchitis are probably due to a pneumococcus infection or to a mixed infection.

So while some pneumonias are not infectious, the difficulty in differentiating is so great that it might be well to consider them all more or less infectious; and, while a differential diagnosis will not materially modify the treatment during the acute stage of the disease, the physician, if he wishes to succeed to the fullest extent, should never cease striving to differentiate, for individualization depends upon differentiation; and to individualize is finding the key to success in the treatment of children as well as in adults.

In this paper I simply wish to bring out a few ideas in regard to the diagnosis and treatment of this common disease.

You are all familiar with the signs and symptoms of pneumonia in children—the fever, the restlessness, cough, the fast breathing. There is one however that I believe is not sufficiently emphasized and that is the pneumonic grunt. This was first brought to my attention by Dr. Seibert of New York City, who, from a very

extensive experience with children for over twenty-five years, believes that the grunting respiration is pathognomonic of pneumonia and it has been my experience that when I have made a preliminary diagnosis of pneumonia from the grunt, that a physical examination has always confirmed it. Holt says that the expiratory moan is very characteristic of pneumonia.

If the importance of the pneumonic grunt is kept in view, it will aid considerably in masked cases of pneumonia. I remember a case where a competent practitioner was treating a nine months baby for meningeal trouble. This child had a grunting respiration and developed an unmistakable pneumonia and died.

If the pneumonic grunt is pathognomonic of pneumonia, there must be some specific cause for it. I have been unable to find any authority who attempts to explain why a child sick with pneumonia should have a more or less characteristic grunting respiration. If it does not occur in bronchitis then the cause is probably outside the bronchial tube. If it occurs only when the lung is involved—possibly an increased amount of residual air together with rapid breathing may so raise the tension inside the chest that it causes an explosive respiration. However, a purely mechanical explanation is hardly sufficient. It seems probable that a toxin floating in the blood may irritate the respiratory centers in the medulla and by reflex action produce this peculiar form of expiration or it may be wholly nervous in its origin. It is peculiar to say the least, that the cause has not been more closely investigated by some of our leaders in pediatrics.

When my attention was first called to this expiratory moan, I thought I had

heard it many times in other affections from which children suffer; but a more careful observation leads me to believe it to be really pathognomonic. I hope the discussion will bring out this point in particular.

Christopher, of Chicago, on page 925 of the American Text-book on Children, in an article on bronchitis, says, "Difficulty of respiration is manifest in several ways. One, by special forms of dyspnoea, particularly a grunting expiration." Later in the same article, he says a grunting expiration is one of the signs that prognosis (in bronchitis) should be guarded. This might lead us to infer that in Christopher's cases, there might have been masked or central pneumonia associated with bronchitis.

Henoch, speaking of obscure cases of pneumonia says, "Under such circumstances we should pay special attention to the character of the respiration which is hurried in comparison with the pulse, while the expiration is moaning in character."

Among other things it is well to remember that we may have a pneumonia without cough, for cough ordinarily will not be present unless the bronchial tubes are affected. We may have pneumonia without bronchial breathing, and it is the rule to have bronchial breathing over a pleural exudate in children and it is sometimes necessary to aspirate in order to differentiate, especially if palpation is not satisfactory in regard to the absence of vocal fremitus and it is liable not to be from the small amount of chest surface that you have to test from in the child, and vocal fremitus may be transmitted from the sound side of the child's lungs. The pneumonic consolidation may be situated so deep that you cannot illicit dull-

ness on percussion. In all of these cases, so far as my experience goes, you will have the pneumonic grunt present. I have never seen a case of pneumonia that simulated appendicitis. It would be interesting to know if the grunt is present in these trying cases.

The chest walls in children are so thin, that, unless one has special training, he is very liable to think harsh breathing is bronchial breathing and make the diagnosis of pneumonia, when he has only bronchitis to deal with, and this is most important in the diagnosis of pneumonia in children, to know bronchial breathing when you hear it. The only way to acquire a well trained ear for bronchial breathing in children is constant practice. It should be understood that bronchial breathing in children and in adults are two very different things, and I believe it impossible to hear anything like true pneumonic bronchial breathing anywhere over a healthy child's chest.

The first and most important thing about the treatment is to give the patient rest. This does not mean that it is not well to frequently change the child from the bed to the nurse's arms, which may mean rest to the little patient and may prevent a hypostatic congestion in prolonged cases. In weak patients who do not breath deep and are unable to dislodge the mucus, Jacobi advised spanking to produce crying. In this way the child's respirations become stronger and danger from atelectasis is lessened. Holt speaks well of the spanking process. Cold packs to the chest will have much the same effect and the child will breath deeper after every application.

In the matter of external applications, probably more harm is done with them in pneumonia than by either the use of de-

pressing remedies or by over stimulating, both of which are cardinal sins in treating this disease. An external application does not work by magic. If its action cannot be explained through our knowledge of anatomy and a judicious exercise of common sense, it probably does no good and may be positively harmful.

When we take into consideration the fact that there is no blood communication between the skin over the lungs and the lungs other than through the large blood vessels at the root of the neck—when we remember this, we may well ask ourselves how a mustard plaster or any of the much vaunted glycerized clay poultices can have any effect whatever in reducing the congestion of the lungs. If in addition we recall our physiology and remember that all the blood in the body passes through the heart every thirty seconds, the mystery of the action of these applications only deepens, for the faster the current the more difficult it is to control.

Pain in the chest may be relieved by counterirritation and this may be explained, possibly, by our knowledge of nerve communication; but there is no reason for placing a pound or more of medicated mud on the chest of a sick child with the idea that it is going to do anything but increase the child's already labored breathing. It cannot, anatomically speaking, relieve the congestion.

Placing the child in a hot mustard bath and rubbing him vigorously while there probably does relieve to a small extent the lung congestion, for, by applying the counterirritation to the whole body, you must necessarily increase the peripheral circulation and reduce the amount of blood in the deeper portions of the system.

It is impossible to explain why a key-hole draft on the back of the neck will be followed by a cold. It is possible that some of these, from my standpoint, objectionable applications to the chest may do good; but is it well to relish so much mystery, for as soon as we are away from the dictates of common sense, we are dangerous to our patients.

I commonly order a hot mustard bath for bronchitis. It is good in croup and will bring out a delayed irruption and so aid materially in clearing up an obscure diagnosis. It may be made with water as hot as the elbow of the mother will stand. The hand will endure being immersed in water so hot as to be painful to the child's body. One tablespoonful of mustard to a gallon of water makes a good proportion to follow. It may be used every three or four hours in pneumonia or oftener if necessary. The child will usually sleep after the bath and all the signs and symptoms be improved. I have seen many cases treated in this manner with good results in the New York German Dispensary.

In regard to medicine, Jacobi says to begin stimulation before you have a case of heart failure. But no one should give stimulants until they are called for. A teamster does not begin to whip up his horses till he comes to the hill. The reserve power in children can, as a rule, be depended upon. Realizing the fact that the disease is marked by depression and exhaustion, the strength is conserved in every way. The appetite is the supreme jewel, and nauseating medicines and syrups are to be avoided.

It is sometimes difficult to give an expectorant which has no objectionable features.

The anisate of ammonium of the Germans is both efficient and palatable and will not usually disturb digestion. It is made by taking:

Oil of anise..... 1 part.
Alcohol 24 parts.
Water of ammonia..... 5 parts.

Of this, from one to ten drops may be given in a little water every two or three hours. It is sometimes an advantage to combine it with the bicarbonate of soda.

Fever in pneumonia, unless it ranges abnormally high, need cause no alarm. Fever in any disease in childhood, unless it causes functional or organic changes in the heart or brain, may be left to care for itself. It is certainly a bad practice to force it down by the use of coal tar antipyretics, which only increase the depression natural to the disease.

Plenty of good air in the sick room will do away largely with the demand for inhalations of oxygen.

Dr. Holt has thought enough of inhalations in pneumonia to have a special room fitted up in the New York Babies' Hospital for giving medicine in this manner.

There is no doubt about the value of inhalations and it is a wonder that more physicians do not use them by the common croup kettle and umbrella methods, mentioned in Holt's book.

C. G. Kerly, of New York, advises 10 drops of creosote to a quart of water. This is the prescription generally used in the New York Babies' Hospital.

In conclusion: It is the strength and vitality of a sick child that saves it, and not the medicine. Consequently, the main idea is to conserve the strength of the little patient—no matter whether the disease is broncho pneumonia or lobar pneu-

monia, whether it is infectious or not infectious.

DISCUSSION ON LOREN CURTISS' PAPER.

W. G. Ferguson, Sturgis: I was well pleased with the doctor's paper. It was practical and to the point. I might add, however, a few additional points in regard to the conditions prior to the treatment. If I had a child with pneumonia, I would like to select a south room. I would like to select a room with plenty of sunlight. Sunlight affects children as it does plants. It is a stimulant; good, bright sunlight. Have the patient so arranged that it will have as much sunlight as possible.

The doctor said nothing in regard to the temperature of the room. I like to keep the temperature somewhere about 68°, keep it uniform, from the incipient stage throughout the whole course of the disease.

I believe the doctor said nothing concerning the diet of the child. I think this should be looked after also. The child should have food that will assimilate well, and not be a detriment to its digestion. The child should be attended by a well trained nurse, or the mother should be instructed in the correct manner of feeding the child. I think that all fussing and company should be prohibited. Put a placard on the door—"No admittance here except attendants." Keep the patient quiet. The child needs that. It is a factor in its progress.

I am inclined to agree with the doctor in regard to poultices. I have had some experience in regard to that matter. We all know that it is claimed by some to be a great factor in the assistance of the evaporation of the body. However, this has not been my experience.

Another thing that I have realized with pneumonia is this—give as little medicine as you can possibly get along with. I do not give one-third of the medicine that I did thirty years ago. Then I thought it was the drugs that cured children; today I believe it is proper care and diet. Close watchfulness on the part of the mother or the nurse will achieve more in nine cases out of ten than drugs. Assist nature's law and she will be the best servant that you can get. I have had better results from hydrotherapeutics than I have had with drugs. My plan is to have my patients sponged once a day, having this done under cover, putting a little alkali in the water. Great relief follows the sponging.

B. R. Shurly, Detroit: The problem of pneumonia in children is one of the most

timely subjects the general practitioner can consider. The more we consider it the more we find that a certain number of prominent, cardinal points in the pathology and the therapy of this disease in children are becoming more prominent in our minds.

The infection of the respiratory tract as a purely pneumonic infection with the various affections attending it, offers special problems of treatment in each case. Attention should be directed along the line of supporting on hygienic treatment with the use of creosote and the salicylates. We know in hospital treatment how fatal these cases are. The disease should be classified, not only as an infectious disease, but very frequently as a contagious disease, in hospital treatment.

In our foundling homes and institutions, pneumonia epidemics are attended by the most fatal complications which we have to meet. As a secondary infection we have epidemics of measles and diphtheria, especially.

The question of the development of this disease is very prominently associated with the development of some abnormality in the lymphoid ring. How frequently we meet with the presence of enlarged tonsils and enlarged bronchial glands in these cases, is certainly familiar to you all.

The pneumonic grunt which has been prominently brought out in this paper, is a symptom that can well be considered as patho-pneumonic, and as a very prominent one. However, a number of these cases will develop the so-called pneumonic grunt when we have an infection of simply the larynx and the bronchial tubes, bringing about a very diminished supply of oxygen; so that while the doctor's theory is undoubtedly a very ingenious one it seems to me that there are conditions which are not true pneumonia, but conditions where the bronchial tubes are simply overloaded with the secretion, which will develop this symptom.

The question of deep consolidation is a very important one in connection with the early diagnosis of this disease, but many of these cases will go along for some days without a diagnosis, unless we are very careful about examining with a stethoscope. So that very minute areas are frequently infected and consolidated before we are able from the clinical symptoms to determine the presence of a true pneumonia. We can frequently suspect pneumonia in these cases, for several days before the consolidation has reached the superficial areas sufficiently for diagnosis from physical examination.

The depression in connection with drugs deserves very important emphasis. I think that

many of us do a great deal of harm in our treatment of pneumonia.

The question of fresh air is one which is most sadly neglected. The popular idea is to keep the child as closely confined to the room as possible; and the amount of oxygen which would be supplied to the case is very sadly deficient. The use of depressing drugs causes serious interference very frequently with these cases.

Again, the impairment of the stomach is one of the most frequent conditions which we meet with in the use of a considerable number of drugs. With the complicating condition, the stomach trouble, stomach disturbance, and nausea, we have the gravity of the cases very much increased.

The mortality in lobar pneumonia in children is only about four per cent.; and with proper care these cases will usually recover. The blood stasis is a condition which we should most certainly keep in mind, and the treatment should be along the lines of relieving that. As soon as we have the blood stasis relieved we have the condition clearing up much sooner.

The use of the croup tent is scarcely to be advised, for the simple reason that the use of the croup tent diminishes the supply of oxygen. It is only when the laryngeal condition is of the greater relative importance than lung or bronchial involvements that we should expect benefit from the use of the croup tent. The fact that this deprives the little patient of air, is certainly a detriment to its recovery.

C. H. Johnston, Grand Rapids: I did not hear all of this paper, so that some of the remarks I may make may be a little irrelevant. I came in when the essayist was talking on the subject of diagnosis, and I was pleased to hear him state that the visible signs of pneumonia in a child were apt to be very different from those in adults. Frequently one has to make a diagnosis of lobar pneumonia in a child from the symptoms alone. I have often failed to find bronchial breathing, dullness on percussion, bronchial voice, and vocal fremitus until after the crisis. I have frequently seen a child four or five or six or eight years old with disturbed pulse, respiration ratio, and an expiratory moan, coming on suddenly during perfect health, the temperature being from 102° to 104°, in whom I have made a diagnosis of pneumonia without finding any physical sign in the chest other than prolonged expiration. Possibly at the lower left lobe or the upper right there may be a few crepitant rales, but the typical signs of lobar pneumonia are often not found until for four or five days, or possibly not until the day after the

crisis. So that we are frequently called upon to make a diagnosis of lobar pneumonia without typical physical signs, or else have to treat a case undiagnosed until the child is almost convalescent. This of course refers simply to lobar pneumonia. Catarrhal pneumonia is usually secondary. The duration of the disease, the fluctuating temperature and the small areas of consolidation here and there, usually enable us to make an early diagnosis.

When you come to the treatment, I think the fewer drugs used the better. The only drugs I have used in pneumonia in children in several years are strychnia and nitroglycerine. Alcohol I don't use at all. I think alcohol does children and most adults with pneumonia more harm than good. The walls of the heart of a child are relatively three or four times thicker than those of an adult, and we have to pay more attention to the respiration than we do to the pulse. The respiration rate is increased relatively much more than the pulse rate. Instead of the normal respiration pulse ratio of one to four, we get a ratio of one to three or one to two. I have seen a respiration of 100, with a pulse of 150 or 160. So that it is the respiratory center we must stimulate in the child. Now we all know that strychnia is the best respiratory stimulant in the pharmacopia. So strychnia is one of the two drugs that I use in pneumonia in children.

I frequently begin the strychnia as soon as I have made my diagnosis, giving it in a dose sufficiently large to produce its physiological effect; then I keep it up. If the case is one of bronchial pneumonia, it is the best expectorant we have.

Poultices I laid aside a long time ago. I do believe in the use of mustard in the manner the essayist spoke of. I use it very much in the form of mustard pastes. I also frequently envelope the lung of a child with lobar pneumonia with ice bags. By the way, I think an ice bag over the heart is a much better cardiac stimulant than all the whisky you can feed a child.

In pneumonia in a child as well as in an adult, I pay fully as much attention to the abdomen as to the lung. I am always afraid of a case of pneumonia with a distended abdomen almost as much as after an abdominal operation.

I think the most important agent of relief in a case of pneumonia is the nourishment. So I let nothing interfere with the patient's nutrition and I never fear for a case of pneumonia with a good appetite. When tympanites begin, I administer a cathartic and use salol or some intesti-

tinal antiseptic. When the abdomen once becomes distended respiration is interfered with and the prognosis is rendered thereby much less favorable.

Loren Curtiss, Paw Paw: Dr. Ferguson has mentioned sixty-eight degrees as a desirable temperature for the room in which a child is sick with pneumonia. While I think it is a good idea to be very careful about the temperature, still, I hardly think it is necessary to be so explicit in directions as to its being sixty-eight. Nevertheless, it is sometimes necessary to emphasize rather minor points in order to get parents to carry out more important ones. It seems to me that we must individualize and no temperature can be advised as a routine procedure, other than one comfortable to the patient.

Dr. Shurly has spoken about the croup tent. I agree with him entirely, but, he said it was indicated only in those cases where there were laryngeal complications. As nearly every case of pneumonia in children is accompanied by more or less laryngeal involvement, the croup tent or medicated inhalations would be indicated in a majority of cases. I think the majority of cases occurring last winter were preceded by influenza and the larynx was always involved. At least, that is my experience.

While oxygen is all important, it seems to me that the improvement, from medicated inhalations, in the child's oxygenating capacity, in the clearing up of a lung already filled with mucus which it cannot expel, more than compensates for any more or less small loss of oxygen the child may experience while under a tent or in a steaming room such as Holt has devised for the New York Babies' Hospital.

Cancer of the Pancreas and Glycosuria (Conclusions).—We have a definite basis for ascribing a certain portion of the cases of diabetes to lesions of the pancreas and ultimately to lesions of the islands of Langerhans. I believe we can include the permanent diabetes of cancer of the pancreas in this group. Further observations must be made before intermittent glycosuria can be attributed to destruction of large numbers of islands. The absence of diabetes in cases of extensive involvement of the pancreas would appear to be due to the survival of small fragments of pancreas, including a number of islands sufficient to carry on their peculiar function. The persistence of the islands under adverse conditions described support the observations heretofore made concerning their anatomical independence, while their enlargement, suggesting as it does a compensatory hypertrophy, is corroborative of the theory that they have an independent special function. (*The American Journal of Medical Sciences*, Sept., 1904, R. M. PEARCE.)

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Editorial

HAVE WE FOUND THE ETIOLOGY OF PERNICIOUS ANÆMIA?

Recently some interesting experimental work has been done by Charlton¹ on the possible cause of pernicious anæmia. If his work should stand the test of time we have gone a long way toward finding out about this obscure, and at the same time fatal disease. In a study of subinfection made about a year ago he found that he got by intravenous injection of living cultures of colon bacilli a peculiar anæmia accompanied by spinal cord degeneration causing symptoms similar to the neuritis of pernicious anæmia. This anæmia disappeared when the injections of the living cultures were discontinued, but promptly reappeared when the injections were resumed. If the injections were continued, the degeneration progressed until paraplegia ensued. He was unable to get the extreme degrees of anæmia that are at times found in pernicious anæmia. He did, however, obtain a reduction to twenty-five per cent. of the normal number of red blood corpuscles and to ten per cent. of the hæmoglobin. Relatively few changes except in the blood and nervous system were found at the necropsies. More recently² he has done further work on the subject and particularly on the effects produced by (a) killed cultures of the colon bacillus (b)

filtered cultures (c) by action of pepsin and hydrochloric acid on living cultures. It was found that the living cultures were the only ones that seemed to have much action on the system in causing the anæmia, and that the presence of pepsin and the acid had practically no effect if the living cultures were used.

Many observers have maintained that pernicious anæmia was due to the absorption of either bacteria or of the products of bacterial growth from the intestinal canal. Vaughan³ has also shown that the toxine of the colon bacillus stays intracellular and is not free in the culture medium. Charlton, it will be seen, finds that the living cultures were the most active in producing the anæmia. It would, therefore, rather point toward the fact that if the colon bacillus was the cause of the pernicious anæmia it was the result of gradual absorption. Hence the study of chronic infection or subinfection, of the colon bacillus should bring us more extended knowledge of this curious condition which has so long baffled the clinician and the laboratory worker. As a deduction from this study of the action on the colon bacillus are we not helped to account for the marked anæmia which we at times find in the so-called septic cases of the puerperal period which on bacterial examination are found to be due to the colon infection rather than to the streptococcic group of micro-organisms? It will be remembered that most of these follow lacerations of the vagina where colon bacilli could easily be gradually absorbed. The anæmia clears up rapidly when the lesions heal.

HARRISON D. JENKS.

1. G. A. Charlton. A Study in Subinfection, *Jour. Med. Research*, viii, No. 2, 1903.

2. G. A. Charlton. A Study of Chronic Infection, *Jour. Med. Research*, xi, No. 2, 1904.

3. Vaughan, V. C. A Study of the Bacterial Cell. *Trans. of Assoc. Amer. Phys.*, vol. xvii. 1902.

IS THE BACTERIAL CELL ESSEN-
Tially A CHEMICAL COM-
POUND OF DEFINITE AND
CONSTANT COMPO-
SITION?

During the past year Vaughan and Wheeler have done some very interesting work in regard to the bacterial cell. They found that sodium alcoholate, acting on the germ substance of the colon, typhoid and anthrax bacilli, split off, in soluble form, highly poisonous groups. The alcoholic solution of the colon bacillus contains two groups of bodies, one poisonous and one non-poisonous (at least not actively so). The toxin is precipitated from the alcoholic solution by platinum chloride, leaving the non-toxic body in solution. This toxin Vaughan and Wheeler consider the specific toxin of the colon bacillus. As to the nature of the toxic body, it is probable that it is composed of a haptophore and a toxophore group. There are certain reasons (chemical and physiological) for considering the toxophore group a neurin.

Only about 1/3 of the bacterial cell goes into solution when heated with sodium alcoholate. The part of the cell substance, insoluble in alcohol, is soluble in water (wholly on addition of traces of acid). This latter substance is not poisonous. The aqueous solution contains a hemolysin and a group that splits up the hemoglobin into hematin and a globulin. The hemolysin is precipitated from the aqueous solution by the addition of an acid and the application of heat.

It was found that the colon toxin immunizes guinea pigs against both itself and the living germ.

The conclusions that are reached by Vaughan* are as follows:

1. The colon bacillus in its essential part is a chemical compound as truly as sodium sulphate or phenylhydrazin.

2. The colon bacillus is a chemical compound, in whose molecule we have demonstrated the existence of the following groups: Nuclein, amido, diamido, monoamido, carbohydrate, toxic, hemolytic, and hemoglobin splitting.

3. Every cell in the animal body contains complex molecules similar to those of the bacillus.

4. The reaction of the colon molecule and a body molecule or cell is chemical, just as much so as that between sulphuric acid and calcium carbonate. When these two molecules are brought within the range of chemical attraction, if the chemism between a group in the one and a group in the other is greater than that which holds these groups in their respective molecules, a reaction takes place. Each group is split off from its molecular combination, and the two combine to form a new molecule. The injury done the bacillus or the cell depends on the group that has been abstracted. No bacillus molecule can do the body cell harm unless such a reaction takes place. It also follows that a toxin split off from a bacterial molecule and injected in the free state into an animal does harm, or breaks down the body molecules more promptly than when the unbroken bacillus is introduced, as sodium chlorid is not a poison, but if it be broken up into its constituent base and acid, either of these, when introduced into the body, destroys the first cells with which it comes in con-

*The Journal of the American Medical Association, Sept. 3, 1904.

tact. This is, I think, nicely illustrated with our colon toxin. The living culture or the dead germ substance, when placed in the abdominal cavity of a guinea-pig, requires from ten to twenty-four hours to kill, because the colon molecule must be split up before the toxic group becomes active, but when the free toxic group is employed, it may kill within as many minutes, because it is ready to combine with groups in the cell instantly on coming within range of their chemism. Moreover, when the free toxin or toxic group is thrown into the abdominal cavity, it requires a longer time to kill than when injected intravenously because, in either case, it reacts with the cells with which it first comes in contact, and with which it is capable of combining. When injected intravenously, some part of the free toxic group comes in contact with the cells of the respiratory center, and death, or at least arrest of the respiratory movements, is almost instantaneous.

5. If this conception of the reaction between bacillus and cell be true, the formation of antitoxins is capable of an explanation, which seems to me simpler than any yet proposed. Suppose that the chemical attraction between the toxic group of the bacterial cell and a group styled "M" in the cell molecule is greater than that which holds these groups in their respective molecules. Then these groups will be broken away from their molecules and unite to form a new molecule, which, being saturated and sloth, is not harmful. The injury done to the cell will depend on the importance that the group "M" bears to the functioning powder of the cell and the injury done to the animal depends on the number of cells whose physiologic function is thus

interrupted. A true toxin—understanding this term to apply only to those agents which are capable of producing antibodies in the animal organism—does not completely destroy cells. It injures animal cells but leaves them in such a condition that they can repair themselves. No other explanation is at present possible because the formation of the antibody is dependent on this process of repair. An agent that destroys the body cells of the animal is a poison but not a toxin. It is possible that a cell toxin leaves the nuclein group of the cell intact, while the cell poison breaks up this group and consequently permanently destroys the cell and renders formation of an anti-body impossible.

AUTOINTOXICATION.

In the normal state there is an enormous quantity of microbes in the digestive tract. Vegetable alkaloids are formed in the intestine where they are absorbed. They reach the blood stream and are thus finally eliminated in the urine. Intestinal digestion is a complex function. Starch is converted into sugar, fats are emulsified, and albumens are converted into peptones by enzymes and intestinal microbes. These latter agents have, however, the further function of fermenting the carbohydrates producing sulfureted hydrogen, other gases, lactic acid, etc. These same intestinal microbes also act on albuminous material forming ptomains; normally the organism is defended against these various poisons:

1. By the intestinal epithelium.
2. By the liver which stops and neutralizes those poisons which have passed through the intestinal epithelium.

3. By the kidneys and other organs of elimination.

4. By thymus and thyroid glands and suprarenal bodies which produce anti-toxic action against the poisons arising in the intestinal canal.

THE ZITTMANN TREATMENT OF MALIGNANT SYPHILIS.

This line of treatment is adapted for those cases in which mercury and the iodides do no good, where the disease runs a rapid course and terrible destruction of tissue occurs. It is in this class of cases that the Zittmann treatment works best. The principle on which the treatment is based is the expulsion of the syphilitic poison by diaphoresis and purgation. It is stated that in many cases where destruction to the tissue has been great, the disease has been arrested by a fortnights treatment.

The evening before the treatment is begun the patient receives calomel, grains 2, compound extract of colocynth, grains 5 and extract of hyoscyamus, grains 2. On the morning after the above dose has been taken the patient drinks half a pint of hot decoction No. 1*, at 9, 10, 11, and 12; and in the evening he drinks a half a pint of cold decoction No. 2† at 3, 4, 5, and 6. He is kept in bed except that he is allowed to sit up for one hour in the evening. This process is repeated for four days. The patient takes a hot bath on the fifth day and gets

*This decoction consists of sarsaparilla root oz. 4, anise seed and fennel seed each grs. 500, senna leaves oz. 1, and licorice root oz. 4. These are bruised and added to gallons 4 of water, together with grs. 80 each of white sugar, alum sulphate and calomel, and grs. 20 of the red sulphide of mercury enclosed in a linen bag; the water is then boiled down gently to one gallon.

†Take the dregs of the above and put them into 3 gallons of water, with 2 oz. of sarsaparilla root and 1 oz. each of lemon peel, cardamon seed, and licorice root, and boil down to one gallon.

up. On the evening of the fifth day some more calomel, colocynth and hyoscyamus are taken and the following day the treatment is resumed. This course of treatment is followed for 15 days.

REMOVAL OF DR. WILLIAM OSLER TO OXFORD, ENGLAND.

Dr. Osler has accepted a call to the University of Oxford, to fill the chair just relinquished by Dr. Burdon Sanderson. All his life he has been a teacher, at Montreal; then the University of Pennsylvania, and lastly at Johns Hopkins University. How well he has taught is answered by the thousands of his students, occupying positions of honor and trust in the profession; by the practice he has given the profession; by his writings and his public addresses.

We do not recall any epoch-making discoveries from Osler; but we find that every part of medicine has felt the touch of his analytical power over isolated observations and his sound judgment. If he has not made the dry bones live, he has filled the student with something of his own enthusiasm, and severed his career from the blight of routinism.

Gifted as few with vivid imagination and creative force in speech, his public addresses have changed the life currents of not a few to higher medical thinking and sounder practice.

As a "mixer" of the profession he has had few if any equals—all this on his own terms—thus rendering an inestimable service to medicine—as no need is greater than a co-operation of the profession, possible only as individuals are induced to join hands with neighbors near and far. Few brought to all the same cordial welcome, left as kindly remembrance as he passed by.

In common with the universal profession we regret that England has greater attractions for Dr. Osler than America; Oxford than Johns Hopkins, and hope his and England's gain may exceed our loss.

County Society News.

The management of the Journal desires to make the department on County Society News of the greatest possible interest to all practitioners in the State. This can only be accomplished through the assistance of the Secretaries of the various County Societies. It is therefore requested of them that, whenever possible, they send an abstract of the papers read before their Society and the discussions aroused by them. If for any reason this abstracting on the part of the County Society Secretary is impossible, it is requested that the papers be sent to the editor's office where they will be abstracted and returned to the writer. Anything which will be of interest to all in the way of items concerning members, resolutions introduced, etc., will gladly be received. It is only by the persistent cooperation on the part of the County Society Secretaries that this department can reach its greatest usefulness.

Miscellaneous.

NEWS ITEMS.

The Newport Association for the Relief, Control, and Prevention of Tuberculosis was recently organized. The objects of the association are disinfection of houses and personal effects, district nursing, the dissemination of printed matter, the establishment of a sanitary camp and the provision of good food.

A drug clerk in St. Louis, Mo., has been held for murder in the fourth degree by the coroner's jury and the proprietor held on the same charge on account of the death of a woman who sent to purchase cream of tartar and was given tartar emetic, labeled cream of tartar. The woman took a teaspoonful and died before physicians could counteract the effect. At the inquest it developed that the clerk was an unlicensed druggist.

Wiert has devised an electro-thermic sterilizer which does not rust instruments, is portable, cheap, and is arranged with a partition so that compresses, etc., may be boiled simultaneously. Gas or alcohol may be used when the electric current is not obtainable.

William H. Welch, Professor of Pathology at Johns Hopkins University, delivered the Lane course of ten lectures on "Infection and Immunity" before the faculty and students of Cooper Medical College and the invited guests, in the five days beginning August 15.

Muskegon County Medical Society has been granted a chapter by the Council of M. S. M. S.

Millions have been spent during the last few years in the building of a large modern hospital at Rome, Italy. Medical visitors to this city have all commented on the vast scale and splendid appointments of this new institution, with its spacious surroundings, apart from the heart of the city. It was formally opened on August 4th and 500 patients from the various other hospitals in Rome were transferred to the completed wards. Three of the pavilions are devoted to surgery, seven to general medicine and one to contagious diseases. There are 80 beds in each pavilion. In one of the surgical amphitheaters the operating is done in a glass compartment.

Menshikoff has recently given out a preliminary report of certain experiments which led him to conclude that measles may possibly be caused by a micro-organism resembling the pneumococcus, but distinguished from the latter by its virulence. He states that only one micro-organism is found in all cases of measles, a short diplo-streptococcus. While there is not sufficient proof as yet to assert that this germ is the cause of measles, yet it is a constant accompaniment of the disease.

The chair of surgery left vacant by König's retirement after the completion of the model surgical clinic under his supervision, was offered to Professor Von Eiselsberg, of Vienna, with a tempting salary. He does not care to leave Vienna and so has declined the offer.

During the past month another State Medical Society Journal made its appearance, namely The Journal of the Medical Society of New Jersey.

CHANGE IN MEMBERSHIP.

(August 15th to September 15th.)

NEW MEMBERS.

S. Bloch, Muskegon, Mich.
J. A. Fleming, Muskegon, Mich.
F. W. Garber, Muskegon, Mich.
G. Hartman, Muskegon, Mich.
D. Hatt, East Tawas, Mich.
L. W. Keyes, Whitehall, Mich.

C. S. Layton, Blaney, Mich.
 J. Oosting, Muskegon, Mich.
 E. L. Niskern, Muskegon, Mich.
 P. A. Quick, Muskegon, Mich.
 A. A. Smith, Muskegon, Mich.
 C. T. Smith, Whitehall, Mich.
 B. A. Stevenson, Traverse City, Mich.
 P. J. Sullivan, Muskegon, Mich.
 O. C. Wicks, Muskegon, Mich.
 L. N. Yerkes, Garden, Mich.

CHANGE OF ADDRESS.

T. S. Burr, South Bend, Ind.
 G. W. Lawton, Ann Arbor, Mich.
 R. L. Morse, Norwalk, Ohio.
 F. H. Newberry, Oshkosh, Wis.
 P. J. Noer, Wabers, Wis.
 C. Oswald-Dedrick, DeLand, Fla.
 A. E. West, Woodbury, N. J.

BOOKS RECEIVED.

- A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. By Robert W. Taylor, M. D. Lea Brothers & Co., Philadelphia and New York. 1904.
- A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY FOR STUDENTS OF MEDICINE AND PHYSICIANS. Second Edition. Revised and Enlarged. By Charles E. Simon, M. D. Lea Brothers Co., Philadelphia and New York. 1904.
- A TEXT-BOOK OF THE DISEASES OF WOMEN. By Charles B. Penrose, M. D., Ph. D. Fifth Edition. W. B. Saunders & Co., Philadelphia, New York, London. 1904.
- A TEXT-BOOK OF MATERIA MEDICA. By R. A. Hatcher, Ph. G., M. D., and T. Sollmann, M. D. W. B. Saunders & Co., Philadelphia, New York, London. 1904.
- A HAND-BOOK OF SURGERY. By Frederic R. Griffith, M. D. W. B. Saunders & Co., Philadelphia, New York, London. 1904.
- Transactions of the Medical Society of the State of New York. 1904.
- Transactions of the Florida Medical Association. 1903-1904.
- Transactions of Tennessee State Medical Association. 1904.
- Thirtieth Annual Report of the Secretary of the State Board of Health of the State of Michigan for the fiscal year ending June 30, 1902.

Correspondence.

To the Editor of Journal of the Michigan State Medical Society.

DEAR SIR:

The American Medical Society for the Study of Alcohol and Other Narcotics was organized June 8, 1904, by the union of the American Association for the Study of Inebriety and the Medical Temperance Association. Both of these societies are composed of physicians interested in the study and treatment of inebriety and the physiological nature and action of alcohol and narcotics in health and disease. The first society

was organized in 1870 and has published five volumes of transactions and twenty-seven yearly volumes of the Quarterly Journal of Inebriety, the organ of its association. The second society began in 1891 and has issued three volumes of transactions and for seven years published a Quarterly Bulletin containing the papers read at its meetings. The special object of the union of the two societies is to create greater interest among physicians to study one of the greatest evils of modern times. Its plan of work is to encourage and promote more exact scientific studies of the nature and effects of alcohol in health and disease, particularly of its etiological, physiological and therapeutic relations. Second, to secure more accurate investigations of the diseases associated or following from the use of alcohol and narcotics. Third, to correct the present empirical treatment of these diseases by secret drugs and so-called specifics and to secure legislation prohibiting the sale of nostrums claiming to be absolute cures containing dangerous poisons. Fourth, to encourage special legislation for the care, control and medical treatment of spirit and drug takers. The alcoholic problem and the diseases which center and spring from it are becoming more prominent, and its medical and hygienic importance have assumed such proportions that physicians everywhere are called on for advice and counsel. Public sentiment is turning to medical men for authoritative facts and conclusions to enable them to realize the causes, means of prevention and cure of this evil. This new society comes to meet this want by enlisting medical men as members and stimulating new studies and researches from a broader and more scientific point of view. As a medical and hygienic topic the alcoholic problem has an intense personal interest, not only to every physician, but to the public generally in every town and city in the country. This interest demands concentrated efforts through the medium of a society to clear away the present confusion, educate public sentiment, and make medical men the final authority in the consideration of the remedial measures for cure and prevention. For this purpose a most urgent appeal is made to all physicians to assist in making this society the medium and authority for the scientific study of the subject. The secretary, Dr. T. D. Crothers, of Hartford, Conn., will be pleased to give any further information.

Secretary:

We have the honor to report to you that at a meeting of the Department of Public Instruction, held August 26, 1904, the resolution submitted by the committee appointed by the State Medical Society at its last meeting to encourage the examination of the eyes and ears of the school children throughout the state was adopted.

The same resolution will be presented to the State Board of Health and an early action is anticipated.

Respectfully yours,

WALTER R. PARKER, M. D.,
 Chairman.

CHARLES G. BAKER, M. D.,
 JOHN R. ROGERS, M. D.,

Committee.

Detroit, Aug. 29, 1904.

Book Notices.

Under the charge of
RAY CONNOR.

THE PRACTICAL APPLICATION OF THE RÖNTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By William Allen Pusey, A. M., M. D., and Eugene W. Caldwell, B. S. Second edition, thoroughly revised and enlarged. Handsome octavo volume of 690 pages, with 195 illustrations, including four colored plates. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$5.00 net; Sheep or Half Morocco, \$6.00 net.

Now that the glamor surrounding the extravagant claims made by enthusiasts in the use of the Röntgen Rays has subsided, it is fortunate that Pusey and Caldwell have been able to put a new edition of their work upon the market.

Naturally during the year there has been much improvement in technique and it is to be regretted that Caldwell has not seen fit to bring his excellent treatise of Part I on X-Ray Apparatus and Its Use in Diagnosis up-to-date. It is especially by these new and more precise methods of technique that we are enabled to interpret the details of the radiographic image with greater precision; and as this interpretation becomes more exact it becomes more valuable as an aid to diagnosis. There has not been, as far as we have observed, one material word changed or added to Part I.

Pusey, however, in Part II on the Therapeutic Application of X-Rays has very materially enlarged the work. Much has been written during the year and he has carefully reviewed this literature, giving the resumé, and what is more interesting and practical, has brought down to this year the history of his own cases with a frankness which renders his conclusions most trustworthy. He states that the study of this vast amount of literature and his own extensive experience has not led him "to change in any important particular either the therapeutic indications for the application of X-Rays, or the general conclusions as to their field of usefulness."

In the first chapter, on the effects of X-Rays on the tissues, he devotes a few extra paragraphs on the after-effects on the skin; on the extensiveness of burns involving the subcutaneous tissue, and to the long duration of X-Ray effects.

In the indications for the therapeutic uses of the X-Rays a few more of the rarer diseases have been added to the list of possible amelioration, as gathered from reported cases.

Pusey still believes that in the treatment of acne this form of medication is the most useful;

but he advises very weak exposures, which reduce to a minimum the dangers of a burn.

Reporters have noted especially favorable results in hyperidrosis and seborrhœa, in eczema, psoriasis, lupus, erythematous and lupus vulgaris, etc.; and much improvement in the treatment of the tuberculous cervical gland, tuberculous sinuses and tuberculous lesions of other portions of the body.

It is particularly with the cases of cutaneous ~~carcinoma~~ that so much has been expected; and so the chapter on this subject, with the detailed report of cases, is most interesting. A more extensive experience has not only not altered Pusey's views, but has made his opinion more emphatic.

It is these details regarding the use and management of the various apparatuses; the many illustrations of clinical cases; the authors' extensive and well recognized views of the practical application of the Röntgen Rays in disease, which stamp the work as authoritative, practical and finished.—A. P. B.

A TEXT-BOOK OF PATHOLOGY. By Joseph McFarland, M. D. Octavo volume 818 pages, with 350 illustrations, a number in colors. Cloth, \$5.00 net; Sheep and Half Morocco, \$6.00 net. Philadelphia, New York and London. W. B. Saunders & Co., 1904.

The difficulty in writing a thoroughly satisfactory Pathology can hardly be over-estimated. The subject is one so large that a life time of study is too brief to cover it all and to condense this into a book of a few hundred pages is quite impossible. The question becomes rather one of what shall be omitted than what shall be put in, and this largely depends on the audience for which the book is intended. The work before us is primarily for the student of medicine and the points likely to be of value to him are those chiefly dwelt upon, while those of purely theoretical interest are less fully discussed.

Under General Pathology, the first part of the book, are discussed such topics as the etiology of disease, pathology of nutrition, parasitism, immunity and infection and infectious diseases. The consideration of diseases of the cardio-vascular, respiratory, reproductive systems, etc., comes under the second part of the work, Special Pathology. In order to make the volume as compact as possible, the less important material

is put in fine print. The illustrations are very numerous and drawn from many well known standard works. They are much above the average in excellence and are especially strong on the clinic side of pathology.

The pathology of the nervous system is not given quite so much room as in many text-books and much that is given is put in the smaller type. The index at the close of the book is very full and complete and adds greatly to the value of the work.

A SYSTEM OF PRACTICAL SURGERY. By Prof. E. von Bergmann, of Berlin; Prof. P. von Bruns, of Tübingen, and Prof. J. von Mikulicz, of Breslau. Edited by Dr. William T. Bull. To be complete in five imperial octavo volumes, containing 4,000 pages, 1,000 engravings and 110 full page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; Leather, \$7.00; Half Morocco, \$8.50. Volume IV just ready: 757 pages, 345 engravings, 16 pages. Lea Brothers & Co., Philadelphia and New York, 1904.

The fourth volume of this system is given up to that most important and modern of all the branches of surgery, namely that of the alimentary tract. The list of contributors to this volume is made up almost exclusively of professors and their efforts supplemented by those of the American editors have succeeded in bringing out a very valuable and comprehensive work.

In the section on the œsophagus, Prof. v. Hacker gives an excellent description of œsophagoscopy, its technic and uses. A plate of colored sketches serves to illustrate the pictures that are obtained in the studies of œsophageal cancers. It is comforting, however, for the general practitioner to bear in mind that even when found these growths have as yet proved entirely inoperable. The section on the surgery of the stomach and intestines is by Prof. v. Mikulicz himself. Appendicitis is treated at some length and the various forms of intestinal anastomosis described.

Prominent amongst these is the Murphy button which is fully described and illustrated. It is even used by the Germans themselves when time is a great object and is the only mechanical aid which has as yet received very widespread adoption.

A section is devoted to hernia and another to the liver and biliary passages. Two brief sections on the spleen and pancreas complete the volume, which is one of the best yet published in the series.

The illustrations, while not quite so numerous as in some of the preceding volumes, are very excellent and add much to the value of the book. The text is rendered in the same clear idiomatic English as in the preceding volumes and the proof reading seems on the whole to be well done despite a few slips which have escaped attention. An index closes this volume as in the foregoing ones and adds to the usefulness of the work for reference.

THE CLINICAL TREATISES IN THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden. Translated under the direction of Boardman Reed, M. D. Part II. Nephritis. Small 8 vo., 112 pages. Cloth, \$1.00. E. B. Treat & Co., New York, 1904.

The rational treatment of chronic diseases present often many perplexing and troublesome points. It is therefore with gratitude that one turns to any source of light available. Perhaps no one is better qualified to speak with authority on the treatment of nephritis than Prof. von Noorden, as so much of his time has been given up to the study of the problems involved. He has departed from the traditional methods of treating nephritis in certain important respects and always with a reason for the faith that is in him.

The customary methods of treatment are first considered and then the facts and principles which underlie the therapy of first the acute and then the chronic forms. As is pointed out, too much stress can easily be laid on the amount of albumen excreted in the urine. The general condition of the patient must be taken into consideration, as it often happens that while the albumen is increasing slightly, the general health of the patient is also improving steadily, and there exists no call for a gloomy prognosis.

This little book is very practical and exceedingly stimulating in its thought. The translator has succeeded in putting it into clear idiomatic and readable English. The proof reading is not as well done as one could wish, but the work as a whole very well repays the time and trouble of a perusal.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden. Translated under the direction of Boardman Reed, M. D. Part III. Colitis. Small 8 vo., 64 pages. Cloth, 50 cents. E. B. Treat & Co., New York, 1904.

In this little essay the author takes up membranous catarrh of the intestines or colica mucosa and considers first the pathology, and then the treatment. This, by no means rare disease, while almost always associated with both constipation and neurasthenia, has still another element in its causation which von Noorden well calls a secretory neurosis. The various views of other prominent clinicians are gone into rather fully, as on the view taken of the pathology rests very largely the subsequent therapy.

The method of treatment employed in this class of cases has as its main object the promoting of the normal functioning of the intestinal tract and the means to this end are laid down clearly, definitely and in a thoroughly practical form. The striking feature of the treatment here as in nephritis is that drugs are conspicuous by their absence. The results that have been obtained by the application of the principles given are very striking indeed for such a troublesome disorder. Only about 5 per cent. of complete failures have to be reported.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Bacteriuria.—This is defined by Krogius as “characterized, on the one hand, by the presence of a great number of microbes in the urine freshly passed, and on the other hand by the absence of pronounced symptoms indicating an inflammatory process of the urinary organs.” This second part means absence of pus in the urine. While this condition was first described in 1881 by Roberts, who noted an acid urine with strong disagreeable odor comparable to dead fish, little was done further on it until 1891. Sixty-seven cases have been carefully observed, of which 56 gave the colon bacillus as the cause, seven had staphylococci, and it is also known that in typhoid there are 20 to 30 per cent. affected with bacteriuria; the colon and typhoid infections are both of renal origin.

The mere presence of virulent bacteria in the urinary organs, whether made experimentally or transmitted by the kidney in the course of a typhoid fever or mingled with the pus of cystitis is not enough to cause bacteriuria. It is necessary to have a parietal lesion to cause the trouble. This parietal lesion may be in the prostate or seminal vesicles, or in the pelvis of the kidney. Of the latter, typhoid bacteriuria, when there is an acute catarrhal pyelitis, is important, for proper treatment will prevent a beginning of a chronic interstitial trouble. Puerperal bacteriuria is important, but has been entirely neglected. It is probably common, due to the colon bacillus. Here again proper recognition is essential for the prevention of chronic affection of the kidney. Again, in chronic catarrhal pyelo-nephritis bacteriuria is a common trouble.

The treatment is simple and in the typhoid and puerperal cases rapid and complete; urotopan, 2, 4, 6, 8, tablets a day and diluent water.

It will be seen that bacteriuria is a symptom, not a disease. Yet it is the only striking feature of certain diseases, especially catarrhal pyelitis, either typhoid, puerperal, or acid retention. Cystitis never causes bacteriuria.—(*The New York Medical Journal*, August 27, 1904. E. L. KEYES, JR.)

The Adams-Stokes Symptom Complex.—In 1893 Huchard proposed the name Adams-Stokes disease for a remarkable symptom—complex characterized by temporary or per-

manent bradycardia, loss of consciousness, together with apoplectic or epileptiform seizures. According to him, the condition is usually if not exclusively encountered in individuals of advanced years and is indicative of arteriosclerosis of the cardiobulbar type.

The following general conclusions are drawn from the experimental data obtained:

1. The blood pressure is constantly very high, ranging from 170 to 250 mm.
2. The great arterial trunks of the extremities are fairly elastic.
3. Although very high blood pressure has existed for at least a year, the urine is normal in volume and specific gravity; there is little evidence of diffuse interstitial nephritis or of left ventricular hypertrophy.

From this it follows that the high pressure is well borne by the heart and kidneys.

4. Acute exercise, as a rule, has no accelerating action on the pulse. I have never counted an increase greater than two waves per minute. On the other hand, it occasionally exaggerates the bradycardia.

5. Exercise invariably causes a sharp rise of pressure.

It seems difficult to harmonize such contradictory findings with the prevailing theory of the circulation. There is a manifest disparity between the laggard work of the heart and the tremendous pressure at the periphery. This appears to be too great to permit of explanation by a theory which assigns to the left ventricle almost the entire work of overcoming the inertia of the blood column. To-day there is reason to believe that the arterial system and the capillary network of the periphery constitute a powerful secondary mechanism in constant rhythmic activity. Such an assumption assumes that other portions of the blood vascular system besides the heart wall, contribute a large quota of the driving energy. Hasebroek in 1903 attempted to establish a new theory of the circulation, which gives this secondary apparatus (arterial system and the vast capillary network of the periphery) a more definite value. It is my belief that the so-called Adams-Stokes phenomena are highly suggestive of the existence of such an auxiliary mechanism dominated by the vasomotor system.—(*The American Journal of the Medical Sciences*, September, 1904. CLARENCE QUINAN.)

SURGERY

Under the charge of

MAX BALLIN.

Surgery of the Diaphragm.—A man 30 years old was stabbed in the left side, collapse and hemoptosis followed. Three hours after the accident, the left pleural cavity was opened freely, by enlarging the stab-wound along the sixth rib. The lung was found collapsed. The fundus of the stomach was prolapsed, through a rent in the diaphragm, into the pleural cavity. The stab-wound had penetrated the prolapsed part of the stomach for a length of two inches, and stomach contents had escaped into the pleural cavity. The wound in the stomach was closed by a double row of Lembert sutures, the pleural cavity was cleansed, the stomach was replaced, through the rent in the diaphragm, which proved to be one and one-half inches long, and the diaphragm was sutured by interrupted silk stitches. The peritoneal cavity was then opened, in order to ascertain the condition of the posterior wall of the stomach, but no other lesions were found.

The opened pleural cavity was drained. Bronchitis and empyema of the injured side made the recovery slow, but the patient finally got well.

From this case and a review of the literature on this subject, Neugebauer concludes that all diaphragmatic hernias should be sutured from the thoracic side. (*Archiv. fuer Klinische Chirurgie*, 1904, vol. 73, Part iv, F. NEUGEBAUER.)

The Significance of Acute Jaundice Following Surgical Operation.—E. H. King, of Muscatine, Iowa, reports three fatal cases of acute post-operative jaundice. The first occurred in a young man suffering from an appendicular abscess. Acute jaundice set in on the third day, coma and death on the sixth.

The second case was in a child, 4 years old, suffering from the same malady. Jaundice developed on the third day, coma, convulsions and death on the sixth day.

The third case occurred in a woman, 25 years old, operated on per vaginam, for a hematocele. Acute jaundice developed on the third day, coma and death the sixth day.

Personal inquiry of a few of our leading surgeons, and former publications, leads one to believe that this postoperative complication is of "occasional occurrence."

King does not think that chloroform by itself should be made responsible for acute jaundice following operation. His conclusions are:

(1) That post-operative jaundice occasionally occurs and is a symptom of grave import.

(2.) That it presents the clinical picture of acute yellow atrophy of the liver.

(3) That from the predominance of abdominal cases, traumatism to the peritoneum and interference with the portal circulation are the probable cause, and the anesthetic, possibly, is the inciting factor in producing this complication. (*American Journal of Surgery and Gynecology*, July, 1904, E. H. KING.)

Suture of the Brachial Artery.—A young man, 17 years old, had his left arm badly crushed between elbow and shoulder. Drainage of the lacerated wound was established. Seven days after the injury profuse hemorrhage occurred. The wound was opened and a funnel-shaped ulcer of the brachial artery was found. At every pulse beat, the blood stream was forced out through this hole; there was no radial pulse, the arm was cold and cyanotic. The hole in the artery was closed by one purse-string suture, which controlled the hemorrhage. A portion of the adjoining muscle was grafted over the sutured portion of the artery. The arm was kept on a right angle splint. The radial pulse returned in 5 hours. The patient is getting a complete use of the arm.—(*Annals of Surgery*, July, 1904, G. TORRANCE.)

To Increase the Resisting Powers of the Peritoneum.—As it is out of the question to specifically immunize because of the multiplicity of the causal agents, Mikulicz accomplishes his aim by inducing an artificial leucocytosis. It was found that nucleic acid was the most efficient agent for this purpose. It frequently produced a hyperleucocytosis of 25,000. The maximum is reached in man about 12 hours after the injection. It was tried in man in 34 instances. All the patients passed through the dangerous first week without any peritoneal complications. The operations included 7 resections of the stomach, 13 gastroenterostomies and other severe abdominal operations. He injects 50 c. c. of a 2 per cent. solution of neutralized yeast, nucleic acid injected subcutaneously in the chest wall. He urges the copious rinsing of the abdominal cavity with warm physiologic salt solution, as this tends to increase the number of leucocytes in the peritoneum besides its other advantages. (*Centralblatt. f. Chirurgie*, Leipsic.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

The Blood in Pregnancy.—From the time of Morgagni the constitution of the blood during pregnancy has been a subject of interest to many investigators and has given rise to a great deal of discussion, which unfortunately has not led to uniform conclusions, even in the hands of those working with modern methods.

Three views have prevailed as to the number of erythrocytes and amount of hemoglobin. (1) A diminution in the number of red blood cells and of the hemoglobin; (2) a decrease in the number of red blood cells and an increase in the amount of hemoglobin; (3) no change.

A leucocytosis has been uniformly observed, the maximum figure given being 16,500 per cu. m. Virchow referred the leucocytosis to the widening of the uterine and abdominal vessels and to the increase in metabolism in the uterus and its contents.

Most observers have noted a fall in the specific gravity.

Endeavoring to clear up some of the doubtful points, Thompson made monthly examinations of the blood of 12 pregnant women. This included the enumeration of the red blood cells, the estimation of the hemoglobin, the enumeration of the leucocytes, the differential count of the leucocytes and the determination of the specific gravity. The latter was estimated by the Hammerschlag method, using a mixture of benzol and chloroform.

From the study, Thompson reaches the following conclusions:

1. A moderate decrease is observed in red blood corpuscles rather early in pregnancy, remaining subnormal throughout the middle months, to rise again to normal at the termination of pregnancy—not, however, in all cases.

2. A low percentage of hemoglobin, constant throughout the first seven months, rapidly approaching normal as pregnancy draws to a close.

3. A slight absolute leucocytosis exists in every case of pregnancy, but this slight leucocytosis does not support the theory that it is due to any positive chemio taxis.

4. There is no variation from normal in the different forms of colorless corpuscles, the leucocytosis affecting all forms of white cells alike.

5. The specific gravity is high at the onset of pregnancy, diminishing by progressive steps, to reach its lowest level in the middle months, rising to normal at term. (*Johns Hopkins Bulletin*, June, 1904.)

The Prevention of Puerperal Sepsis in Private Practice.—Byers states that spontaneous delivery is very rarely followed by signs of puerperal infection, provided the patient has never been examined internally. Leopold has shown, in a series of 248 cases confined without internal palpation, that 98 per cent. had no fever whatever during the puerperium. But 5 cases showed any febrile symptoms and these were very slight.

During pregnancy, the uterus and vagina contain no pathogenic germs, though they are present on the inner wall of the labia in at least 60 per cent. of all cases. Internal examination will necessarily carry these organisms upward where they may do great harm. Nurses and students should be early taught the dangers of internal examinations and the value and safety of replacing them by abdominal palpation.

We must recognize that in at least 75 per cent. of all cases, labor is a natural process, not to be interfered with. As stated by Edgar, labor is a conservative process, the tendency of which is to prevent sepsis. This tendency we should not thwart, nor should we supplant it with methods of our own. We should interfere only, when for some reason, the resources of nature prove inefficient.

The immediate repair of any laceration in the pelvic floor is very important in the prevention of puerperal sepsis. (*Lancet*, Aug. 13, 1904.)

Diphtheritic Vulvo-vaginitis.—Eriksson reports a comparatively rare and interesting case of diphtheria of the vulva and vagina in a child of eight years, whose sister had suffered from an attack of diphtheria a short time previously.

The first symptom was pain on urination, which subsequently became so severe that catheterization was necessary. The vulva was much swollen and inflamed and covered by a thin gray membrane. There was little discharge at any time. Later on in the illness a severe angina developed.

Klebs-Loeffler bacilli were grown from the exudate on blood serum. The patient made a good recovery after the use of anti-diphtheritic serum. (*Rev. Cent. f. Gyn.*, July 23, 1904.)

PHARMACOLOGY AND THERAPEUTICS

Under the charge of

W. J. WILSON, JR.

Treatment of Epidemic Cerebro-Spinal Meningitis.—To sustain life, we must feed the child. The gastric irritability and tendency to vomit can be overcome by rectal feeding of peptonized milk or peptonized yolk of egg. Lavage should be resorted to and light nutritious food such as whey, white of egg, broths, and soups should be given at regular 3 or 4 hour intervals.

Place the child in a room having a temperature of 68° to 70° if possible. If high fever is present, shave the scalp and apply an ice bag to the top of the head and at the nape of the neck. A mustard foot bath will in some cases relieve the cerebral symptoms. Tub baths (tepid) may be tried.

The bowels and kidneys must be carefully watched. Retention of urine requires supervision. If the urine is scanty, we can stimulate its excretion by giving high colon flushings of normal saline solution at a temperature of 110°.

If stimulants are necessary the tincture of musk, or the hypodermic injection of camphorated oil are indicated. Hyoscyamine tablets of 1/100 grain are useful when active delirium is present. Suppositories containing 10 grains of chloralamid with or without small doses of belladonna are useful as sedatives and promote sleep. Large doses of potassium or sodium iodide, 1 to 4 gms. (15 to 60 grs.) or even more daily may be tried. Mercurial ointment rubbed into the scalp and nape of the neck morning and night was used in a case that recovered.

Corning recently devised an instrument for injecting medication into the spinal canal. The tube is to be inserted through an incision made along the side of the spinal process of the 4th lumbar vertebra. The tube is left permanently in place for days or weeks. Through this silver tube a fine needle attached to a glass syringe can be pushed through the membranes, dura and arachnoid. In this manner the subarachnoid space can be medicated.

Browning, of Brooklyn, reports a case in which an operation was performed at the occipital site. It was believed that more prolonged and effective drainage could be obtained by this method. Following surgical teachings, he drained off as much infectious material as possible. The reason for selecting this site is because it lies directly opposite the foramen of Majendie, which is the ventricular outlet. Here also there is less chance for return infection.

Brain surgery has not yet given anything but temporary relief. Our only hope lies in the discovery of an anti-meningococcic serum. (*N. Y. Med. Jour.*, Aug. 13, 1904, L. FISCHER.)

Treatment of Acute Alcoholism.—Upon the admission of a case all alcoholic stimulation is immediately withdrawn and eliminative measures instituted. When the presence of unabsorbed alcohol in the stomach is suspected, the tube is passed or apomorphine hydrochlorate (gr. $\frac{1}{4}$) administered hypodermically. The latter has usually proven efficacious, and sedation has often been noted for a few hours afterward. Possibly the subsequent exhaustion is contributory to that end, although no deleterious effects have followed the use of this drug.

A course of calomel followed by salines is routine treatment when the stomach is retentive. Lavage usually insures relief in most cases of persistent vomiting; milk and lime water as a diet, with the occasional exhibition of cerium oxalate will do much toward establishing normal assimilation.

Mindful that all alcoholics are starved, or at least underfed, the institution of proper dietetic measures early is most desirable.

Highly concentrated liquid nourishment is given every two or three hours as the exigencies of the case may suggest. The addition of powdered capsicum to hot broths is especially useful. Chloral hydrate has proven a sovereign remedy in the treatment of these cases. As much as 40 grains have been given every 4 hours until the desired result is obtained. In cases manifesting cardiac asthenia, strychnine nitrate, atropine, aromatic spirits of ammonia, or infusion of digitalis are combined with this sedative. Morphine is used most cautiously, especially in the presence of renal complications. Hyoscyne hydrobromate, although a much lauded remedy, has in my personal experience proven disappointing and unreliable. At times its use has been followed by great excitation of the nervous system, with subsequent great prostration. The practice of giving 20 to 30 grains of trional every four hours during the day with an evening dose of chloral hydrate, 20 to 30 grains, has given excellent results in many cases. (*Therapeutic Gazette*, Aug. 15, 1904, JOHNSON.)

DERMATOLOGY AND SYPHILIS.

Under the charge of

A. P. BIDDLE.

Affections of the Mucous Membranes in their Relation to Skin Diseases.—Because of their abundant vessel and nerve supply the mucous surfaces are prone to first reflect the action of the poison of the acute exanthemata or of other toxic agents in the general blood stream which act on the neuro-vascular apparatus or the vessels' walls. Furthermore, on account of anatomical and physiological differences the clinical course and symptomatology of mucous membrane affections may differ in a marked degree from similar skin eruptions. Organs may be disturbed which are closely related to the life of the individual; general toxæmia may result through absorption from infective foci or from broken down infiltrations. In short, it may be asserted that the succulence of mucous membranes, with their rich blood and lymph supply, render them susceptible to a large number of infective agents, with greater liability to constitutional disturbance than when the skin is in like manner the seat of the trouble. This is notably true of tuberculosis, which in its usual form on the skin seldom gives rise to a general infection, but is readily disseminated from mucous membrane or visceral foci.

As regards the diagnosis of mucous membrane lesions in general the usual rules which apply to purely cutaneous ones often fail us. There is less color contrast on account of the more translucent nature of the epidermic covering; vesicles, bullae and pustules do not long exist as such; papular lesions are less sharply defined and more easily eroded; infiltrations readily ulcerate and become infected, and squamous types undergo modifications by reason of the moisture of the epithelial cells.

The marked difference in the appearance of the various eruptions on the skin, which often enables us to make a diagnosis at a glance, are not so defined on mucous surfaces. We may have to confirm our belief in the existence of a certain disease of these structures by the coincidence of the skin eruption or by a process of exclusion.

The implication of the mucous membranes in the acute exanthemata is almost invariable, and the rash occurring here, as it sometimes does in measles and scarletina before it appears on the skin, may materially aid us in making an early diagnosis.

The significance of the primary macules on the buccal and labial mucous membrane has been prominently emphasized.

The chronic infective granulomata are also, at some time in their course, found on the visible mucous membranes.

Syphilis, tuberculosis, glanders, actinomycosis and other members of this group of infections may involve the mucous membrane primarily, as a result of a general infection, or by direct extension from the skin lesions.

Certain general intoxications of the most diverse origin, comprising exudative erythema, urticaria, purpura and drug rashes may occasionally be seen in the mouth or give rise to gastro-intestinal or visceral complications of a serious nature.

The mucous membrane may be accidentally infected in the course of some of the pyrogenetic affections by direct extension from the skin, through the medium of an infected finger, or in other ways.

It has been asserted that the skin and mucous membranes may be alternately invaded by catarrhal processes; that the rapid disappearance of an eczema has been followed by a bronchitis or asthma which in turn subsides and permits of a recrudescence of the eczema.

There are certain clinical grounds for the foregoing assumption in that the activity of a pathological process in one organ is often followed by a quiescent state of a similar process in another part of the body.

The papules and bullous lesions of the erythema group of skin disease when they appear on the mucous surface of the tongue or mouth, can readily be mistaken for the mucous patches of syphilis. Mercurial stomatitis may produce erosions which are with difficulty distinguished from the lesions the drug is intended to cure, and eventually can lead to such discoloration and thickening of the epithelium that the condition is easily mistaken for the scars of syphilis or leucokeratosis.

Antipyrine and other aniline derivatives have produced erosive lesions in the mouth, which have been taken for specific ones. The growth of cancer from surface keratoses or from the deeper lesions resulting from syphilis may be so slow that it is not always possible to differentiate the two conditions. Numerous instances have been observed where improvement in tongue and mouth neoplasms has taken place up to a certain point, and the hope was expressed that the entire condition might be syphilitic. It was difficult to convince the patient and at times the physician that a cancer had developed from the tissue alterations caused by syphilis.

On the other hand it was not so unusual for syphilitic lesions to be mistaken for malignant growths. This was true not only of the late circumscribed gummata but also of the initial lesion in extragenital and unusual locations.—(*Journal of Cutaneous Diseases*, September, 1904, J. A. FORDYCE.)

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CHORIO-EPITHELIOMA MALIGNUM— REPORT OF A CASE.*

WM. F. METCALF and H. E. SAFFORD,
Detroit.

Mrs. C., age 31 years. A remote history of tuberculosis on the maternal side. Menstruation began at fourteen; was regular, normal in amount, and painless, until July, 1902. In 1898 she was thrown from her bicycle, the handle tearing the perineum. This laceration was repaired and the patient was in bed for three weeks. She married February 26th, 1902. At the time for normal menstruation, July 5th, she flowed excessively. July 13th there was profuse flowing during the night, and products of conception were expelled. July 27th profuse flowing came on suddenly with the expulsion of a blood clot. During the following four days the temperature ranged from 101° to 103.5°. The os uteri was found patulous and curettement was performed by her mother, a practicing physician. The patient remained in bed about three weeks and made a fair recovery.

Menstruation began August 25th, was normal in quantity and duration and was painless. She menstruated normally in September and October; she failed to menstruate in November, suffered morning nausea, and thought herself pregnant. She flowed freely and continuously December 1st and 2nd. After this her health improved and she added to her weight. She failed to menstruate in January and February and again thought herself pregnant. March 8th she had a chill followed by sore throat; temperature 101°. On the afternoon of March 12th she began to flow so profusely that by 4 P. M. she was reduced to the point of fainting. Strong expulsive pains now began and continued until 10 P. M., when a piece of mole tissue four inches long and as wide as two fingers was expelled and a similar piece lodged in the cervix. This was followed by exhaustion and there were no more uterine contractions. She slept until morning. On March 14th her mother curetted the uterus, removing pieces of tissue together equaling in size a man's fist and composed of cysts with

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pedicle attachment, varying in size from a pin-head to that of the end of the little finger. There were hundreds of these cysts embedded in a fibrinous mass. Bright red blood suffused the mole as it was removed. There was no odor. The uterus was about the size of one four months advanced in pregnancy. Her temperature was 101° to 103°.

Active flowing continued. March 21st curetting was repeated and more than a handful of tissue removed. After this the temperature became normal; she was permitted to get up soon and for about a week went down stairs. Then began occasional profuse gushings of blood, with intervals of hours between, and she began to lose color rapidly. On the morning of April 6th, she was curetted again. Profuse hemorrhage during curettement compelled immediate packing of the uterine cavity. Dr. Metcalf was first called to the case on the evening of the same day and from the history was led to make a diagnosis of chorio-epithelioma and advised careful microscopical examination of the tissues previously removed. The next morning a stream of blood followed the removal of the packing from the uterine cavity, and a strong necrotic odor pervaded the room. A report upon the tissues examined at the clinical laboratory gave support to his suspicions of malignancy. Blood-examination showed the hemoglobin reduced to 50 per cent. The patient was at once sent to Harper Hospital where the following morning Dr. Metcalf performed an abdominal hysterectomy.

Her recovery was uninterrupted and the improvement has continued. She says that she has attended all her household duties since five months after the operation. At present, nearly fourteen

months after operation, she is apparently enjoying perfect health.

Chorio-epithelioma is a neoplasm, varying in malignancy and originating from chorionic epithelium or its parent trophoblast. It forms a distinct class, apparently differing from carcinomata and sarcomata. It is generally related to a more or less recent pregnancy, but some investigators seem to have demonstrated that the characteristic tissue may be found independently, as for instance in certain teratomata of the ovary or even in corresponding tumors of the testis. Of the theories to account for the occurrence of such tissue in these tumors it is foreign to our purpose to make mention. It is worthy of notice in passing that here lies an interesting bone of contention among the pathologists.

The attention of scientists was called to this kind of new growth about fifteen years ago. After some controversy among those who were actively working upon the subject, the London Obstetrical Society in 1896 appointed a commission to settle, if possible, the classification of these tumors. The verdict of the commission was that they were nothing but sarcomata of the uterus and it practically denied that they had any necessary relation to pregnancy. The course of scientific thought has ever since been running farther away from the dictum thus laid down.

In the General Hospital in Vienna from February, 1901, to August, 1902, there were found in 2700 autopsies seven cases of this condition. Marchand in 1898 had applied the term chorio-epithelioma to it. Veit in 1901 published an article, in which he attempted to account for the condition on the theory of their springing from the deported fragments of chorionic tissue escaping into the maternal blood-vessels.

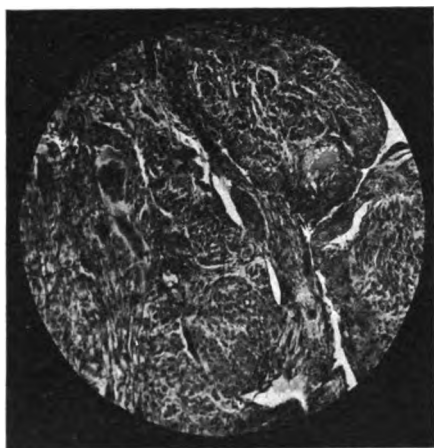
This fact has attained to a quite general acceptance, but since the deported fragments are observed in normal, as well as in pathological conditions, his theory is held insufficient. Such fragments are usually absorbed in the maternal tissues but it is possible to conceive that a tumor might arise in a more or less distant part if the normal degeneration were not undergone. That there is metastasis by way of the blood-vessels in the presence of the already developed malignant process there can be little doubt.

It is safe to say that today the work of Marchand upon the pathology of these growths is given the greatest weight, although the English commission did much to delay its recognition. The previous work of Langhans upon the histology of the chorion and especially the work of Peters and others upon the early stages of the development of the ovum, during its period of implantation, have given the ideas of Marchand an ample support. By this view as latterly held by Marchand, the neoplasm is made up entirely of tissue arising from the foetal ectoblast instead of the maternal mesoblast, as the English commission would have had it. This foetal ectoblast, or trophoblast, gives rise in the developed chorion to the layer of what are known as Langhans' cells. These lie upon the stroma of the villus and probably represent the most highly vitalized tissue in the chorion. From them, by a process of differentiation, it seems that the outer syncytial covering of the villus is derived. These so-called cells of Langhans are then the ones which we find as the invaders of the uterine structures and the component cells of the metastases. In both primary growth and metastases, the syncytial derivatives, cor-

responding to those described as in the villus covering, are found.

The diagnosis in many cases must be difficult. Even the microscopic determination can not be taken as absolute, since there is such a variety of appearances within the normal. It must first be recognized that the tissue from which this growth develops is, according to the accepted view of Peters, essentially infiltrating, and even within normal limits to a degree malignant, from the maternal standpoint. In other words the primitive trophoblast in its normal activity and the derivative Langhans' layer in the condition of chorio-epithelioma malignum are, according to this view, similar in vital characters as well as in morphology; the real difference between the two arising in the absence of a purpose in the vital activity of the latter, as is true of the growth of any malignant neoplasm. This difference, it will readily be understood, does not strikingly manifest itself in the lower grades of malignancy. This is not saying however that the microscopic examination is not useful and even imperative. The observations thus made should, in the light of the clinical features, lead to a fairly positive diagnosis in most cases. In the simple hydatidiform mole the overgrowth of the stroma of the villi and its subsequent degeneration, so as to form the characteristic little pedicled cysts present in such numbers are attended by a moderate overgrowth of the chorionic epithelium. This evidently was the condition in the earlier part of the course of the case we present. As malignant characters are assumed by the new growth, the hyperplasia of the stroma is overshadowed by that of the epithelial cells, and the striking features become the num-

ber of cells of Langhans, syncytial giant-cells, and deep-staining "syncytial masses" in groups or scattered, upon the surface or more or less deeply infiltrating the uterine structures. In those cases where the metastases are accessible for examination, the finding of the chorio-epithelial cells would leave usually no doubt of the character and source of the primary trouble.



CHORIO-EPITHELIOMA MALIGNUM
Infiltrating Langhans' cells.
Syncytial giant-cell.
Syncytial masses, with deeply staining nuclei.

In order that the pathological examination may be made at the best advantage, all the tissues obtained should be preserved and placed as early as possible in the hands of the microscopist.

In any case where a hydatidiform mole has been passed, it must be looked upon for a considerable time as potentially one of the malignant type. A good routine plan that has been suggested for such cases is to watch them carefully for a period of two weeks when, no signs of a malignant process being apparent, a thorough curetting of the uterus is performed and a careful search for actively infiltrating proliferation made. This delay al-

lows time for the absorption of those remnants of chorionic tissue which, though benign, might earlier cloud the diagnosis.

In the event of symptoms of an already developed malignancy, irregularly repeated profuse hemorrhages and rapidly developing anæmia, there is no time to be lost. Disregard the dangers of hemorrhage to such an extent as to be able to get a specimen for examination, pack, and get the earliest report possible from the laboratory. In no class of cases would the value of the freezing microtome be of greater service, permitting your examination while you wait.

In considering the diagnosis from the clinical side, we may note that the average age of these patients falls at the time of greatest sexual activity. It is given by Teacher, in a study of nearly two hundred cases, as 33 years, an average differing from that of either carcinoma or sarcoma. It is true that a number follow delivery at term yet the vast majority follow abnormal pregnancies. The histories show preceding good health in many cases. Miscarriage followed by the formation of a hydatidiform mole is always a suspicious train of events. Statistics show that from 10 to 16 per cent. of cases of mole are followed by malignant manifestations, and about 50 per cent. of cases of chorio-epithelioma follow hydatidiform mole. Sudden severe hemorrhages, irregularly recurring, are the ordinary picture, but in some cases this has not figured conspicuously. There is apt to be an offensive discharge between the recurring hemorrhages. Rigors with more or less fever are common. Anæmia and cachexia attend the appearance of the malignancy and progress rapidly. Cough or hemoptysis in any such case should arouse the sus-

picion of a pulmonary metastasis and is a thing which Teacher believes should be borne in mind in attending any recently delivered woman. Failure to be relieved of hemorrhage or to take on a general improvement after curettement would bear a serious significance.

Even with radical operation the general prognosis is bad; but that it is not so hopeless as some have been led to believe is evidenced by the peculiar, unaccountable course of some cases reported.

An early hysterectomy will save a large proportion of those in which a positive diagnosis of malignancy can be made and confirmed. Cases are on record in which, even after the development of metastasis, the removal of the metastatic growth and the emptying of the uterus were followed by an apparently permanent return to health. On the other hand it has happened that the uterus showed no sign of involvement in the malignant process, while the secondary growths developing by metastasis a few months after pregnancy were rapidly fatal. And again there are cases in which the primary growth has been removed even after metastasis was established and recovery has followed.

Of Teacher's 188 cases collected, 99 had been subjected to radical operation and, of these 99, there were 63.6 per cent. of recoveries, or 34.2 per cent. of the whole number of cases. Two-thirds of the successful operations were performed within three months of the appearance of symptoms.

We may consequently conclude that early operation and removal of the primary growth is the only safe treatment and that metastasis is not a contra-indication to operation.

PATHOLOGICAL REPORT.

I. Uterine curettings from case of Mrs. C., taken March 14th, but not coming to our hands until April 10th, 1903. A loose mass of tissue chiefly made up of small cysts, some hanging by a pedicle attachment, some embedded in a fibrinous mass, each more or less transparent and collapsing under the touch. On section these cysts are found to be in various stages of degeneration, from the small growing villus, with comparatively healthy stroma covered with syncytium to a considerable thickness, to the completely formed cyst in which the stroma has entirely disappeared except around the periphery and the syncytium has all but entirely disappeared. In all villi in which the stroma has begun to soften and become transparent at the center, the syncytium shows the absence of the round cells of Langhans. The "syncytial masses," with their heavily staining nuclei, remain often as the most enduring among the degenerating tissues, and a thin layer of syncytium is usually to be found about even the completely formed cyst. The specimen is the tissue of a hydatidiform mole. From this alone the case could not be declared malignant. (The curettings of April 6th were reported to us as malignant.)

II. Uterus and appendages removed April 8th, 1903. Uterus was 11 centimeters, by 6.5 centimeters, by 5.5 centimeters in size, and when received was packed with gauze, which, being removed on opening the uterus, left a foul-smelling, dark grayish-brown surface on the posterior and superior walls of the canal extending around upon the anterior surface somewhat more to the right. On cutting into the uterine tissues, they

were found soft and spongy in consistency over the above described area for a depth of from 5 millimeters to 10 millimeters, but elsewhere and at greater depth the gross appearance and consistency more nearly approximated the normal. Microscopic examination showed a marked infiltration of the uterine tissues by the cells of Langhans extending well into the musculature. At the surface were left remnants of villi of the mole with their stroma in various stages of degeneration, but the epithelium was in active state of proliferation. At the surface of these villi were seen perfect transitions from the cells of Langhans to the mature syncytium. Wandering among the uterine tissues beneath the surface were the characteristic syncytial masses and giant-cells.

This is undoubtedly a chorio-epithelioma malignum.

The photographic work was done by P. M. Hickey, Detroit.

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DISCUSSION.

B. R. Schenck, Detroit: It seems to me that this paper of Dr. Metcalf's, which is on an important subject, should not go by without some discussion. And yet cases of deciduoma malignum or chori-epithelioma, as you may wish to call them, are so exceedingly rare that in general practice we do not meet many of them. I dare say that but few of us will ever have the opportunity of seeing a case, and if we do we certainly will not see many. Even in the large obstetrical clinics in Europe the cases are rare. In this country I do not know what the statistics are, but in the Gynecological Clinic of Johns Hopkins, where there have been about 11,000 indoor cases since the opening of the hospital, there has been but one case of deciduoma malignum, and as this case brings out a point upon which Dr. Metcalf has touched I would like to refer to it.

The patient was a large, healthy woman. In August, 1902, she was seen by her physician in Western Maryland, and was supposed to be at that time $2\frac{1}{2}$ months pregnant and to be threatened with abortion. With the usual treatment for abortion, the bleeding ceased and she went on for a couple of months perfectly well. He was called one night to find her—along in the month of October—with a profuse flooding and in a dangerous condition. He made an examination at that time and found that the uterus, much to his surprise, was the size of a seven or eight months' pregnancy. Supposing then that he had a case of placenta previa he did accouchment forcé. He delivered what was apparently, from his description, an hydatidiform mole. The patient did very well until about the fourth week when she began to have uterine bleeding. The doctor did a curettement, but despite this the hemorrhage went on, and he brought her to the hospital some time in November, about seven weeks after the delivery of what was taken to be the mole. On admission to the hospital she was in an exceedingly bad condition. The second day the temperature was 105° , pulse never less than 132. The blood count showed but 20 per cent. of hemoglobin, and a corresponding number of red blood corpuscles. On the second day, as the bleeding was quite profuse, I did a curettement, packed the uterus, with the idea of putting her in bed and building her up before doing a radical operation. The scrapings

which were examined at that time were apparently those of a chorio-epithelioma. She did not build up and was going down constantly, so that despite her bad condition, an abdominal hysterectomy was done, which she stood well, although her convalescence was slow. She left the hospital in fair condition and has since continued well.

The point I wish to make is illustrated by this case. The examination of the specimen showed masses of syncytial tissue imbedded in the uterine muscle, but these syncytial cells did not show, as we know they usually do in cases of chori-epithelioma, a marked tendency towards proliferation. There were really none of the rabid appearances that we usually have in those cases, so the case was rather puzzling. A work has recently appeared from Marchand's laboratory in Leipzig, in which the author points out that we are no longer to regard deciduoma malignum as necessarily malignant, for we have all grades of

malignancy, from the most benign and mild to the most malignant. This case which I have just related, should probably be classed as a destroying mole. The author gives a classification of deciduoma which is rather a new idea, as we have heretofore looked upon the condition as a pathological entity.

The gradations in regard to malignancy are much the same as the gradations in the virulence of the colon and typhoid group of organisms. On one end of the line we have the innocent colon bacilli, on the other the virulent typhoid. So in regard to these cases, the benign mole stands at one end and the malignant deciduoma at the other.

W. F. Metcalf, Detroit: I have nothing further to say other than that the symptoms are so marked that really no case of deciduoma malignum or chori-epithelioma should be overlooked by any one who has given the subject thought.

GENERAL TIC—WITH REPORT OF A CASE.*

C. C. WALLIN,
Grand Rapids.

The word tic means literally a twitching, and has been applied to a group of convulsive disorders which present as their chief symptom spasmodic contractions of various muscles or groups of muscles. This common symptom is the expression of diverse pathological conditions. So also is there a varying degree of involvement of the higher and lower portions of the central nervous system. Joseph Collins of New York, classifies tics as follows:

- "Primarily, (1) Senile (acquired) tic.
- "(2) Early tic, which may be divided

into two varieties, viz: (a) degenerative, and (b) acquired.

"Early tic, degenerative or acquired, may be divided into two classes, viz: (1) motor tic. (a) localized tic. (b) generalized tic.

"(2) Psychomotor tic, divided into (a) tic which is a response to a compulsory idea, or obsession, and (b) tic caused by a co-ordinated movement, associated with intellectual or emotional externalization, orderly or disorderly."

Meige and Feindel, in their recent work "*les Tics et leur Traitment*," follow the usage of Brissaud and Charcot, designating as spasms those convulsive disorders which are due to a peripheral irritation, in the production of which the bulbo-spinal arch alone is involved; to be a tic

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the cerebral cortex also must participate in the affection.

For descriptive purposes tics are classified as to their location. Thus we have fronto-orbicular tics, nasal tics, diaphragmatic tics, etc.

That form of tic which is herein chiefly discussed is one of those included under the last group of Dr. Collins' arrangement and likewise may properly be called a tic according to the conception of the French authors quoted.

Tic General, also known as *Maladie Des Tics Convulsif*, *Maladie Des Tics Impulsif*, Gilles de la Tourettes disease, *Myospasia impulsiva*, is a rare psychomotor neurosis. Characterized by (1) twitchings of the facial muscles; (2) systematic movements repeating themselves in the same manner; (3) echolalia and coprolalia, also echokinesis and occasionally (4) imperative or fixed ideas.

As a better clinical description of the disease cannot be found I insert the following from Oppenheim:

"The disease generally occurs in children between seven and fifteen years of age, and who are neuropathic by heredity . . . a sudden emotion, a trauma, or an infectious disease is the most common exciting cause of the attack.

"The first symptom noticed is generally a twitching of the facial muscles, particularly a blinking of the eyes, drawing up of their corners, distortion of the mouth, or a rapid opening and closing of it, etc. Twitching of the muscles of the neck come in afterwards. In its further course, often only after years, movements occur which give the impression that they are *for a definite purpose*, or to produce an effect, or are merely the result of *habit*. The patient grasps his nose, pulls his hair,

strokes his chin, throws his head to one side, claps hands, stamps his feet, catches imaginary insects, imitates spitting, dances, hops or runs around, and the like.

"These movements are repeated in a stereotyped manner. The patient is forced anew to bring his muscles into the same action, and originally judicious and phynologic movements become pathologic. Though all muscular regions may be affected, the face, neck, and upper extremities are particularly liable to be affected.

"Synergetical muscular action is rare, as are also single movements. It is generally a co-ordinated tic. They differ from voluntary movements not only through their seeming absence of purpose and constant repetition, but also by the short, rapid and forcible nature of the muscular action.

"Articulation, phonation and respiration are generally involved; the patient is forced to make inarticulate sounds or even words. It is often a simple smacking of the lips or a chuckling, more often imitation of the voices of animals, sometimes senseless words or more often ugly and obscene words (coprolalia), or references of a sexual nature. The impulse to repeat words or sounds (echolalia) or to imitate movements (echokinesis) is rarely present . . . the intelligence usually remains intact . . . the movements may be temporarily inhibited by will power . . . diversion of the attention and voluntary movements usually quiet the tic."

The essential etiology of this affection is a degenerate condition of the nervous system. The word degenerate is here used in its biologic rather than its pathologic sense. The condition is more frequently a manifestation of a general neurotic condition in the ancestry than of a direct inheritance of the disease. In other

words, basic embryological conditions are such that there is a partial failure of development of the central nervous system. Not only is the inhibitory function of the higher centers weak, but the efferent motor centers are lacking in tone and unduly irritable. Thus, though certain spasmodic actions not set in motion by the will, as for instance, licking the lips with the tongue, may be temporarily stilled by the will, they shortly commence anew. On the other hand, certain actions initiated voluntarily run on in a spasmodic way, like a piece of machinery which has suddenly lost its fly wheel and subside only when the effect of the original stimulus is exhausted.

The direct cause of the appearance of the symptoms is usually a prolonged illness, generally of infectious character. Sometimes trauma or emotional shock may be the immediate agent of its manifestation. Occasionally cases develop in which no history of either illness or shock can be obtained. A certain proportion of these are unquestionably due solely to a progressive degeneration of the nervous centers but I am convinced that the development of certain cases in which no history of any extraneous excitant can be obtained, is at least hastened, if not entirely caused, by the prolonged action of overlooked peripheral irritations, such as a redundant or adherent prepuce, intestinal worms, naso-pharyngeal obstructions, etc., upon an already unstable, nervous organism.

The diagnosis of tic in its various forms, as well as a proper conception of its nature, has been and to a large extent is still obscured by what Dr. Collins calls "that dreadful phrase, 'a kind of chorea.'" Chorea sometimes accompa-

nies the tics but patho-genetically as well as symptomatically the diseases may be sharply differentiated. The chorea of Sydenham has a different pathology located in the gray matter of the cortex, meninges basal ganglia and cord induced by vascular changes. Huntington's chorea is directly hereditary, rarely begins before the age of thirty, is attended by progressive mental deterioration and shows post-mortem degenerative conditions of the cortex.

In its clinical manifestation chorea is characterized by unsystematic and irregular twitchings, the movements are not co-ordinated, and are generally made worse by voluntary efforts. The echolalia and coprolalia of general tic are almost pathognomonic and never found in cases of pure chorea.

Hysterical spasms come on suddenly, may often be controlled by suggestion, and are usually accompanied by other stigmata of hysteria. Here also echolalia and coprolalia are usually absent.

Early in its course general tic may be mistaken for ordinary convulsive tic, though the latter is usually unilateral, and is not progressive.

General tic manifesting itself first in the muscles of phonation and articulation has been mistaken for tongue-tie, and the phrenum lingulae incised for its cure.

Report of case. Patient, R. L., age 5 years. Family history on mother's side negative. Father has a marked alcoholic history, having in the past been a hard drinker and more than once been on the verge of delirium tremens. At one time manifested such unreasoning jealousy of his wife that a brief separation occurred.

Some years ago a son seven years of age died from some convulsive illness

said to be "water on the brain." Both the parents are fond of their children, but being of a somewhat excitable temperament do not create the best environment for the patient.

Patient himself is well nourished, bright, and apparently normal. Delivery was instrumental and prolonged. During the first year of his life he developed normally and at the age of one was beginning to walk, when he contracted whooping cough. This hung on most of the second year, and was accompanied by severe gastro-intestinal derangement. During this period it was noticed that he was backward about talking. About the end of the second year he recovered from the whooping cough but was unable to sit alone, owing to weakened condition. At the age of $2\frac{1}{2}$ years the frenum lingulæ was incised to relieve him from tongue-tie. No improvement resulted. From that time until last September practically the same condition obtained, save that his father noticed that he did not handle his limbs with the freedom of a normal child. In September last the patient first came under my observation, not however, as a patient. He then resided in my neighborhood and I had some opportunity of observing him as he played about with the children. The most striking symptom he presented was the peculiar spasmodic character of his articulation. He seemed to have but little control over this function, and whenever he would attempt to speak a jumble of words, many of which were unintelligible, would pour forth. Again, if he did get a long word started properly he seemed unable to form certain sounds, chiefly the consonants, or to change from one syllable to another. Thus in attempting to say medicine, he

would say "me-me-me," repeating the first syllable rapidly and being unable to form the last two. In attempting to say automobile, he would say "auto-mo-bi-bi-bi-bi." At this time he manifested also spasms of the facial musculature, involving the fronto-orbicular and the mimetic muscles so that with a peculiar scowling and blinking he would draw his mouth into a broad grin. This gave him an appearance of being mentally deficient. Co-ordination in the upper and lower extremities was somewhat below par and his movements were characterized by a peculiar though not excessive awkwardness. None of them, however, were of that tremulous nature characterized as choreiform. Another interesting manifestation was the way in which he would at times imitate my actions when about the stable. Thus he would take a cloth, follow my movements when I was cleaning my automobile and would pick up a broom to sweep the floor if I did so. At first I attributed this to the natural imitative instinct of a child. Prolonged observation convinced me, however, that it was a morbid manifestation. He would repeat the same action over and over again. Thus if he bent down to pick up something and I sharply told him not to, he would obediently desist for the moment but would immediately repeat the action. This also I at first attributed to childish wilfulness, but on further study, taken in connection with the above described symptoms, became convinced that it was another manifestation of "echokinesis."

As cold weather came on, I lost sight of the case until February 26th, when I was requested by the mother to see him professionally. About three weeks previous he had developed a spasmodic con-

traction of the muscles of the neck and left shoulder; in other words, a spasmodic wry neck. He had been wearing a new sweater with a high collar when this began, and his parents first thought that this irritated him. Removal of this supposed cause brought no amelioration of the symptom, which later alternated with a rotary spasm. These spasms were not incessant, but occurred at intervals of one to three minutes for one-half hour, then there might be a period of quiet, followed by a few minutes of almost incessant activity, though not at any time violent. Patient was also suffering from incontinence of urine and was continually scratching his anus.

Physical examination showed the child to be well nourished and presenting no gross malformation. Knee and elbow reflexes normal. When asked to put out his tongue, could not control it; would put it out and it would be drawn back again and twisted from side to side. The upper incisors showed a notching, and all the teeth a tendency to decay, such as is frequently seen in children whose nutrition has been interfered with or whose development is below par. The prepuce was elongated and adherent over most of the glans and the skin about the anus red and irritated. The child had been indulged in sweets though not excessively, was irregular in his habits of eating and constipated.

Circumcision, cleaning of the small bowel with santolin and calomel and irrigation of the large bowel with quassia, remedied immediately the urinary incontinence and the anal irritation. Regulation of the diet controlled the evacuations and a prompt and decided remission in the spasms occurred.

A course of mental and physical hygiene was instituted. For about a month no spasms of the neck muscles were manifested, save once or twice under stress of excitement. Phonation and articulation were somewhat improved and several long words which previously could not be pronounced were properly enunciated, e. g., "automobile."

During this period the first typical manifestation of echolalia was observed. The patient would go about the house repeating again what was said to him. Involvement of the lower extremities was also observed. Occasionally when excited one or other of the lower limbs would be seized with a violent though short stamping spasm. Somewhat later the tongue was particularly affected and the child was continually licking his lips. At about the end of the second month's treatment he was free from all spasms and his phonation still further improved. Then he was sent to stay with friends for a week during the maple sugar season. At the end of his visit his neck was jerking again, he was continually protruding his tongue and licking his lips, and while at play alone would constantly hum and make peculiar noises. Cleansing of the gastrointestinal tract and regulation of the diet again did away with the neck spasms.

Later I twice observed a diaphragmatic tic, initiated by excitement and laughter. At the time of writing the grosser spasms, those of the neck and limbs, are in abeyance, but how long they will remain so it is difficult to say, owing to the continual tendency of the parents to become lax in their care.

I have gone into the description of this case somewhat in detail for the reason that it has been an unusually characteris-

tic example of tic involving most of the muscles of the body, and further because its course emphasizes the necessity of continual patient treatment.

This affection may be therapeutically approached from two general directions, the peripheral and the central. First, all sources of peripheral irritation must be discovered and removed, whether in the cavities of the head, the gastro-intestinal tract, the prepuce or elsewhere. When this is accomplished attention may be turned to the other or central line of attack. Here we find a more difficult problem. Much depends on the judgment and character of the nurse or mother. The patient must be removed as completely as possible from all sources of emotional excitement, and by line upon line and precept upon precept, must self-control be taught. Yet this teaching must not be of strict disciplinary order, and punishment should not be resorted to. In other words, the child must be taught to control himself without being impressed with the fact that he is afflicted, for such children are often very sensitive, and will utterly refuse to attempt words or actions, if they feel that they may be ridiculed or punished. Active employment must at the same time be provided, and to this end the manual training of our kindergartens and such amusements as require attention and co-ordinated movement, as bicycle riding, may be employed.

A regimen of hygiene must be closely and constantly adhered to. Cool sponge or shower baths in the morning, nutritious diet free from spices and sweets, attention to the bowels and avoidance of over-fatigue are measures which are essential. As adjuvants electricity, particularly the sinusoidal current given in a

bath (when possible), and massage are of some value.

I have said nothing as to medication in this affection as I believe that drugs should be used only to meet incidental indications and as general tonics. The bromides and other sedatives are generally contra-indicated and should be used only when the spasms become violent and prolonged. With the salts of zinc and silver recommended by some I have had no experience.

General conditions such as anæmia should be met on general principles. It is frequently necessary to give something in order to keep the family reminded that the patient is still under treatment. For this purpose, and with the idea of possibly furnishing an added pabulum for the nervous system I have used 5 gr. tablets of phospho-albumen three times a day with apparently some beneficial results.

And finally, as well as firstly and continually, patience and persistence together constitute the *sine qua non* of success. The physician can do little more than lay out a program and give occasional advice and instruction. If the mother or nurse weary of well doing, the result will soon be seen in an exacerbation of the symptoms. The nervous system will become more fixed in its undeveloped state and the patient will be afflicted throughout life. According to the degree of the fundamental degenerative condition will the symptoms be progressive. If, on the contrary, treatment is studiously maintained the reward will be possibly the complete disappearance of the symptoms, at least their amelioration, the result here being to a degree dependent upon the recuperative powers of the system and the extent of its involvement. It is obvious that if

the case can be taken in hand early, before the developmental age is passed, the prognosis is much more hopeful than in those cases which have been unrecognized until the attainment of maturity.

It is in the active portion of life that the symptoms of this condition become most distressing. The degeneration is progressive and frequently but little affected by treatment. Some authorities go so far as to claim that the disease is incurable. This, however, is too radical a statement, as such men as Charcot, Oppenheim and Osler report complete recovery in a few cases and long remission in others. If the condition progresses the sufferer may be afflicted in several ways. The impulse to perform certain movements is frequently irresistible, and though in some cases it may be overcome for a time by the will, the patient suffers intense unrest until the impulse is gratified. The impulse to ejaculate profane and obscene words is occasionally manifested, and no matter where the patient may be must be gratified. Inasmuch as the patient knows what he is doing, although unable to prevent it, the hinderance to earn a living and the accompanying mental distress cause a double suffering. Occasionally the degeneration progresses still further and involves the entire mentality of the sufferer.

General tic is a rare condition, yet so far-reaching are its baneful effects that the possibility of its presence should always be borne in mind when a case of the so-called habit spasms or little tricks of speech or action present themselves in children.

DISCUSSION.

David Inglis, Detroit: I was very much interested in the paper and I simply want to

emphasize what Dr. Wallin has brought out in regard to the fact that these cases are amenable to treatment if you can get at them early and carry the treatment out.

The greatest difficulty as I see it in cases of this kind is in regard to the matter that the doctor has alluded to; as a matter of fact I think the patient will do better if he can be put away from the relatives, or the father or mother, and on the other hand an irascible father or mother who is continually nagging at the children make it impossible for anything to be done. What the child needs to learn is a steady, quiet and persistent self control; it can not be accomplished by urgent injunctions, it cannot be accomplished by the affectionate mother but it can be by a steady discipline. A great many parents think it is inhuman to take a child away from father and mother and send it to an institution; as a matter of fact some of these cases can be brought to a very satisfactory conclusion if they can be put into a proper school for defective children where the discipline is steady, quiet and persistent, where the child conforms to the general regulations and is made to obey without there being any very great struggle. The difficulty with these schools, of which we have some excellent ones, is that they are rather expensive for the children of poor people and it seems to be rather out of their reach, but the principle is there nevertheless. It is notable, in some of these cases, that the children will behave better and are less subject to their various grimaces, gestures and contortions while they are undergoing the ordinary discipline of a well conducted school than when at home.

Another thing that the doctor alluded to I think needs emphasis, and that is the building up of the child's general bodily vigor. If a child with this sort of a thing developing could be turned loose on a farm and brought up in a hearty, wholesome, vigorous way, leading an outdoor life, eating wholesome food and the least possible attention being called to its grimaces and nervous condition I think more could be accomplished than by any amount of drugs.

W. J. Herdman, Ann Arbor: All of these difficulties which involve both the psychic and the physical must be approached, as the essayist has said, in their therapeutics from the two sides, both from the psychical side and the physical side. One can have the very best of conditions, such as have been sug-

gested by Dr. Inglis and yet there may be some little source of peripheral disturbance that has been overlooked and the trouble keeps on in consequence of that.

I arise especially to commend the course of therapeutics that has been suggested by Dr. Wallin, that all sorts of peripheral irritation must be relieved. Then we must not forget we have an over susceptible nervous system to deal with where turb, so that whatever can be done in the way of general tonics, massage and so forth to improve the general stability should not be overlooked but the main treatment after this as has been considered is the psychical treatment, and I strongly support what Dr. Inglis has said in regard to the home atmosphere. It is sometimes the producing cause, and unless they can get away from that suggestiveness and have the mind diverted and have the mental activities educated it is impossible to overcome them even if all the attention has been paid to the physical stages of disability. The child has a lack of inhibitive control, there is not strength enough of will. Often-times that is due to the fact that it has been brought up in this emotional at-

mosphere and has had suggested to it an explosive action. Now if a judicious teacher or a judicious relative would take that child in charge and in a tactful way divert its mind and occupy it with things that leave no such suggestion there is the best condition for a psychic modification of its mentality. In some cases they are accomplishing a great deal in dealing with these things by making use of hypnotic influence in allaying in that physiological way, which is perfectly legitimate, which we as physicians are learning more and more of, and use more and more as we learn more of it, placing the child in such a state that it allays more or less its over sensibility, and then impressing the mentality with something that is directly opposite, thus counteracting the condition by psychical therapeutics.

W. A. Ferguson, Sturgis: Owing to the unstable organization of children, it is desirable to give particular attention to their nutrition and so enable them to withstand better the strains of after life. It is the duty of the physician to teach the parents the best methods for establishing and maintaining such nutrition.

DIFFERENTIAL DIAGNOSIS OF CONDITIONS SIMULATING APPENDICITIS.*

LOUIS J. HIRSCHMAN,
Detroit.

Disease of the appendix vermiformis has been so generally and thoroughly discussed and written about in the last decade or so that the mention of anything connected with appendiceal disease might at first glance seem superfluous.

The very fact, however, of this wide dissemination of knowledge of the disease and its manifestations, causing physi-

cians all over the world to be constantly on the lookout for it, has prompted the presentation of a paper of this nature. The prominence given the so-called McBurney's point, as the point of most tenderness, has led, not infrequently, to errors of diagnosis, which have been attended with most unhappy consequences. That tenderness is most exquisite, at this point, in most cases of appendicitis, is unquestionably true; but that it is a constant and pathognomonic sign of the disease is no more axiomatic than that its absence

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is negatively proof-positive of its non-existence.

Atypical forms of appendicitis have not infrequently been diagnosticated as other diseases, while the reverse is perhaps a more common error. "The unexpected always happens;" and this saying is often exemplified upon the laparotomy table. If, upon opening the abdomen, disease of one organ is found to have been incorrectly diagnosed for another, the error can be corrected at the time, and as the treatment is usually removal of the offender, no harm is done. However, if the diagnostic error is such that it prevents or delays timely operative interference, here is where irreparable damage to the health and welfare of the patient is done, and unnecessarily fatal termination ensues, and the correct diagnosis is first made at the autopsy!

It is, therefore, with a view of assisting in the differentiation of some of the diseased conditions, which call attention to the right side of the abdomen, that this paper is presented to the section. If diseased conditions, generally, would be more considerate, and follow the line of symptoms laid down for them by the textbook, there would be no need for study in differential diagnosis. For, with the textbook in one hand, and the other on the patient's abdomen, any first year student could make an absolute diagnosis.

A great many different diseases have been mistaken for appendicitis, and vice versa, among which may be mentioned: Acute indigestion, intestinal auto-intoxication, lead colic, typhoid fever, malaria, cecal impaction, obstruction of the ileocecal valve, obstipation, renal calculus, gallstone colic, tuberculosis of the peritoneum or cæcum, cancer of the cæcum,

ileus, intussusception, dysmenorrhœa, oophoritis, salpingitis, floating kidney with twisted pedicle, retro-peritoneal abscess, ectopic gestation, acute affections of the pancreas, and many other more unusual conditions.

Of course previous history, sex, age, occupation, habits, etc., will at once exclude a great many of the above, and physical examination will exclude many more. It will be the object of this paper to take up those which are most frequently liable to be confounded with acute appendicitis.

The fact that an attack of acute indigestion often ushers in an attack of appendicitis is too frequently overlooked. Every case which presents the two symptoms of nausea and vomiting accompanied with abdominal pain, no matter how evident the cause of the "indigestion" may seem, should call for abdominal palpation before a diagnosis is made. A purgative dose of castor oil or sodium phosphate, with or without gastric lavage, will soon clear up the indigestion, and determine the diagnosis. Acute intestinal auto-intoxication is accompanied with gaseous distension of the bowel, without a definite point of greatest tenderness. A high enema of magnesium sulphate and turpentine, along with a dose of the purgatives named above will clear the diagnosis in short order.

A condition which might easily be mistaken for appendicitis, on account of the acuteness of its colicky pains, is lead colic. If the patient is a painter or lead worker, a plumber or a worker in colors, it is well to have lead colic in mind. If the patient is a male, between the ages of 30 and 40, and the pain is referred to the region of the umbilicus and is relieved

upon pressure, it is very probably due to lead poisoning. The history of the ingestion of a quantity of canned vegetables or other canned food, renders the diagnosis more probable. If, in addition, the patient complains of cramps in the flexor muscles of the fingers and toes, and a blue line is found on the gums, lead poisoning is the diagnosis. Of course, workers in any of the above occupations may be subject to acute appendicitis, but the symptoms above mentioned should never leave any question as to the trouble.

Typhoid fever, in its early stages, may simulate appendicitis, and a differential diagnosis is difficult to make at first. However, if the patient has been suffering from malaise; has had a slight rise in temperature, higher in the evening; attacks of "pea-soup" diarrhoea; has had attacks of epistaxis, with gurgling and slight tenderness in the right iliac fossa; tenderness over the spleen; a tongue which is coated in the center, with its edges raw, typhoid may be suspected and the patient treated accordingly. There is no muscular rigidity and the point of tenderness is not so acute, and in from 24 to 48 hours the diagnosis will clear itself.

Impacted cæcum gives rise to tenderness, colicky pains in the right inguinal region, and may, at first glance, suggest appendicitis to the medical attendant, but if the patient is elderly and a dyspeptic, with a history of constipation, it is well to have impacted cæcum in mind. Physical examination will show a large, hard, rounded tumor, in the region of the cæcum. The mucous membrane of the cæcum may become scratched and ulcerated by the large fecal mass, and the tenderness may be quite acute. Appendicitis

may arise with the line of symptoms outlined above and diagnosis should not be difficult.

An important, not uncommon condition which, however, is rarely recognized, is stenosis of the ilio-cæcal valve. The histological anatomy of the ilio-cæcal valve shows that it is analogous in structure with the pyloric and rectal valves. A patient suffering from the various symptoms of auto-intoxication who complains of spasmodic pains at or near McBurney's point, with a boggy tumor at this point which disappears and reappears with colicky pains and a gurgling sound, should be examined with the possibility of a diagnosis of ilio-cæcal valve obstruction in mind. Patients with a history of this kind have not infrequently been operated upon for appendicitis and upon recovery from the operation, the symptoms returned and a second laparotomy has disclosed a very much thickened ilio-cæcal valve. The operation of ilio-cæcoplasty, similar to pyloro-plasty, has given prompt and permanent relief. Mayo reported eight cases of this trouble cured by this operation, and Scott, of Cleveland, seven more, the most of which were operated on first for appendicitis and subsequently the real cause of the trouble was discovered and rectified.

Obstipation due to the enlargement of the rectal valves, pressure of a prolapsed or retroverted uterus, or large ovarian cyst upon the large bowel may be the cause of coprostasis and distension of the cæcum with gas and feces; but the relief of the symptoms by thoroughly emptying the bowel and the discovery of the cause by recto-vaginal examination will settle the diagnosis. The four tubular organs located on the right side of the abdomen,

viz., appendix, gall duct, fallopian tube and ureter often by their efforts to rid themselves of obstruction, cause intense and intermittent, spasmodic, colicky, pains, varying more or less in severity; and a differential diagnosis is often difficult at first blush.

Gallstones attack older persons as a rule; the point of acute tenderness is higher up, patients are more or less jaundiced, though not invariably. The pain is of very sudden onset and of excruciating degree and is relieved upon vomiting, if the obstruction is in the common duct. Inspissated bile, distention of the gall bladder in empyæmia, may throw the point of extreme tenderness lower down or near McBurney's point. There is not the characteristic rigidity that there is in appendicitis and you have usually a previous history of similar attacks.

Renal calculus causes intense, sudden pain darting down the ureter into the groin, down into the bladder and sometimes down the thigh or up towards the diaphragm, also usually accompanied by severe backache on the affected side. In the male the testicle usually is retracted. The pain is so intense that the ordinary dose of anodyne has no effect. It is almost impossible to make a physical examination on account of the excruciating nature of the pain. The patient suffers from cold sweats and has an anxious expression and is usually completely prostrated by the intensity of his suffering. A urinary analysis should be obtained as soon as possible. If blood is found in the urine along with the epithelial cells from the ureter or kidneys and accompanied by an excess of acid or the opposite, excess of phosphates and oxalates; the diagnosis of calculus in the ureter or kidney is highly

probable. Floating kidney, with a twisted pedicle will give rise to similar symptoms, and an examination under anesthesia may be necessary, otherwise often a differential diagnosis cannot be made. Recognition of the tumor, however, will make differentiation easy. If the fallopian tubes are affected, no very pronounced symptoms are manifested for tubal colic is not intense; the pain is more intermittent, the seat of tenderness is more constant and diagnosis is made readily by bimanual examination.

Acute inflammation of the ovaries as well as other disorders of menstruation give rise to crampy pains which call attention to the right side of the abdomen as well as the left, but upon questioning the patient and upon vaginal examination the diagnosis is readily made. It must be remembered, however, that appendicitis may be associated with any one of the conditions above named or to be named, but it is beyond the power of most of us to differentiate between two diseases occurring at the same time, in the same person. Reflex headaches at the top and back of the head and a history of dysmenorrhea or irregular menstruation will also assist in the differentiation.

A condition which by its onset often explains itself, coming on as suddenly as a cloud out of a clear sky, which has been mistaken for acute appendicitis is rupture of an ectopic gestation. This is characterized by sudden abdominal pains, extreme and painful distention, rapid and small pulse, anxious expression, pallor of countenance and every symptom of internal hemorrhage and shock. The abdominal distension may be so considerable as to cause difficulty in breathing and the patient often becomes nauseated and vomits.

The history of one or more lapses of the menstrual period and examination of the breasts should call to mind the possibility of a tubal pregnancy with rupture; and inasmuch as immediate laparotomy is indicated, the question of diagnosis can well be deferred until the abdomen is opened. After one has seen a few patients in the above condition, the matter of diagnosis is very soon settled.

Tuberculosis and cancer of the cæcum are both conditions which very often are not discovered until the abdomen has been opened. The patient may suffer for some time from pain which exceedingly simulates chronic appendicitis; may be cachectic and emaciated and suddenly, through more acute ulceration, acute symptoms resembling acute appendicitis occur. Differentiation in these cases from chronic appendicitis is very difficult, but as the cure is operative interference, an absolute diagnosis is not essential.

Acute suppurative conditions of the pancreas may also simulate acute appendicitis. Occurrence of fatty stools and sugar in the urine, septic temperature, with a tenderness more or less in the region of the umbilicus but without the rigidity of the right recti muscles will serve to call attention elsewhere than to the appendix. Upon opening the abdomen, if white spots, resembling splashes of paint are found on the peritoneal surfaces these are evidence of fat necrosis due to the escape of pancreatic juice into the abdominal cavity, and at once calls attention to the pancreas as being the probable seat of the difficulty.

Abscesses of the kidney, ureters and retro-peritoneal abscesses may simulate appendicitis, but the onset is more gradual and the pain is referred more particularly to the back. Septic temperature and

the absence of rigidity of the recti muscles of the right side, should exclude appendicitis almost at once.

In young children intussusception gives rise to symptoms which very closely parallel appendicitis. Sudden pain, distension, nausea, vomiting, rapid pulse more or less rigidity, will call attention immediately to the right side, where will be found the seat of most tenderness and lead to the discovery of a sausage shaped tumor in the region of the appendix. This will call the attention of the medical attendant to the existence of intussusception. It might be mentioned that absolute constipation in this condition has existed from the first. In adults a train of symptoms which is absolutely identical (with or without the presence of the tumor) makes the question of the presence of ileus or acute intestinal disturbance or obstruction probable. It may or may not be coincidental with an attack of appendicitis.

The method of abdominal examination which has been pursued by the writer for the diagnosis of appendicitis and conditions simulating it, might be interesting to the members of the section. After obtaining the history of the case from the patient or his friends (in case of a female a rectal and vaginal examination is included); the whole of the abdomen is carefully palpated, beginning at the left side and working towards the right, then downward. When the point of most acute tenderness is located, one finger of the left hand is placed over this point. Keeping the left hand in this position, the rest of the abdomen around the tender area is palpated with the right. As tender places are encountered, the patient is asked under which hand the tenderness is most acute, and in this way the definite

point of most acute tenderness is determined. For example: this point is found to be within a radius of two inches of McBurney's point. The finger of the left hand is placed over this point, and if despite palpation with the right the most tenderness still exists under the left hand, it may be assumed with a considerable degree of accuracy that this point is over the seat of the trouble. I have verified the diagnosis of appendicitis made in this

way over and over again; laparotomy showing the appendix to extend in a direction from McBurney's point indicated by the point of most acute tenderness which was located under the left hand. It is a simple method and yet my results have been so satisfactory from following it, that I am convinced that it will be of no little service in differentiating appendicitis from these conditions and symptoms which simulate it.

DYSMENORRHŒA.*

JEANNE C. SOLIS,
Ann Arbor.

Menstruation being a physiological function its performance should be without pain. How far this is from the case every practitioner can witness.

In some investigations made by Englemann in 1900 on this subject among American girls it was found that dysmenorrhœa was present in from 50 to 80 per cent. Among saleswomen who stand all day 91 per cent. are afflicted with dysmenorrhœa and a large percentage are partially incapacitated for work.

The writings of other authors confirm these statements. What such suffering by its frequent repetition through a cycle of from thirty to thirty-five years entails upon the individual in the form of secondary nervous and other disorders makes

dysmenorrhœa and its treatment important subjects.

Etiologically dysmenorrhœa is due to constitutional disturbances exhibiting themselves upon the pelvic organs; or to conditions in these organs themselves.

The constitutional causes may be those of anæmia, of a rheumatic diathesis, or of any debilitated condition. These factors act in producing dysmenorrhœa by causing an irritability of the nerves of the pelvic organs through poor nutrition, and these nerves further irritated by the monthly congestion, respond by pain. The local factors in dysmenorrhœa are as various as the cases themselves.

In some cases we find a lack of development of either the uterus or ovaries, or of both; in others, a narrowing or stenosis of the os uteri—an evidence of lack of general evolution frequently.

Again we find the dysmenorrhœa dependent upon an inflammation of the

*Read before the Section on Obstetrics and Gynecology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 25, 1904, and approved for publication by the Committee on Publication of the Council.

uterus and adnexa; or there may be a displacement of the uterus present.

Nearly all these local factors act by hindering the free escape of the menstrual discharge from the uterus, thus causing pressure upon the nerves. The diagnosis of dysmenorrhœa itself is comparatively simple. The pain occurring regularly in connection always with menstruation differentiates it from other painful disorders.

The true diagnosis is that of the causative factors, and a local examination is necessary to determine them.

The symptoms are exemplified in the following cases:

Case 1. Miss C. H., aged 36 years. Menstruation was established at about 16 years of age. From the beginning the patient had great pain every month. Had cramps, colic and chills. The flow was always scanty. The pain preceded the flow and continued through first day. On the second day of the period there was no pain at all. At present the patient complains of the occurrence of similar pain every month, which may precede the period for one or even two weeks. She also complains of severe backache. This is present all the time, but is aggravated during menstruation.

Case 2. Miss K. O., aged 20 years. Menstruation was established at 12 years; was normal at first but for one and a half years she has had some disturbance at menstruation. Has pain in the pelvis of a dull aching character, accompanied by a bearing-down feeling. Has headache and a dull ache up the length of the spine during the menstrual periods. Has backache all the time, complains of an excessive leucorrhœal discharge.

Case 3. Miss K. R., aged 34 years. Menstruation was established at 13 years.

It was normal at first. Then at 18 years after a fall and exposure to cold, had severe pain at the periods. Pain has varied in severity, but it has always necessitated the patient's remaining in bed from a few hours to one day every month.

The pain precedes the onset of the flow, sometimes subsiding then, but generally continuing for a day or so. The patient has backache at this time, also, and lately she has been subject to fainting attacks at this time.

The above are more or less typical cases. In case one on examination the uterus was found retroverted, slightly prolapsed, enlarged, freely movable, the vaginal wall and uterine supports as a whole were relaxed.

Case two showed an endometritis. The vaginal canal was hyperæmic and relaxed, the cervix was eroded and inflamed, while the body of the uterus was hyperæmic and enlarged, acutely inflamed, discharging an albuminous secretion.

In case three there was a retroversion of the uterus, but in this case the organ was not tender nor enlarged, and was freely movable.

The treatment of dysmenorrhœa must meet the pathological indications.

Necessarily it will be of both a general and local character, for if primarily there was no constitutional factor, when we see the case some ten or fifteen years after the beginning of the trouble there will be disturbances on the part of the general state of the patient which must be met. The nervous system, digestive, circulatory and eliminating organs must all be overlooked and prescribed for as the case requires.

To meet the local conditions we have in the direct electric current an efficient agent.

Let us take case one. A retroversion of the uterus due to relaxed uterine supports, dysmenorrhœa and backache as symptoms of the same. In the negative pole of the direct electric current we possess a means of stimulating these supports, of improving the circulation which has become impeded, and of so changing the conditions that in a number of months this report was received:

No pain preceding the period in contrast to one or two weeks of pain. The menstrual flow came on without pain and there was no pain at all during the period. Neither was there any backache at all. Previously backache was a constant symptom.

In detail the treatment was as follows: For ten days preceding every period for a number of months the patient received every other day a treatment with the direct current. The negative pole, a round ball vaginal electrode, was introduced well up into the vagina and a current of from 10 to 20 ma. gradually turned on. Then the electrode was moved gently about in order to give the interrupted stimulus of the current to the uterine supports.

As a part of three of the treatments in addition to this vaginal treatment the negative electrode, this time a curved intra-uterine one, was introduced into the uterus with a current of 10 ma.

This electrode was gently slipped back and forth through the cervix, never being entirely withdrawn.

The object in this case was to relieve the circulation of the uterus and to straighten the canal.

The vaginal treatments were ten minutes in duration, the double treatment about fifteen minutes long. The third

month, and thereafter for two months, the patient came for treatment each week preceding the period, and finally, after seven months of treatment of the above short intervals, she was dismissed—a length of treatment very satisfactory to both patient and physician, considering the condition was one of twenty years' standing.

While taking treatments, with the exception of a daily rest for a couple of hours, the patient was up and about enjoying herself.

In the case of metritis the opposite pole, the positive, for the intra-uterine electrode is the choice. Otherwise the treatment is similar. In this case we want to constrict the dilated blood vessels, reduce the blood in the parts, overcome the sensitiveness and prevent the hypersecretion.

Wherever we have inflammation, there we have bacteria. This factor is also met by the direct current. The positive pole in this case will exercise a microbicidal influence in the tissues to which it is applied.

This effect can be heightened by amalgamating the positive electrode with a mercury preparation, or by using a copper or zinc electrode, the electrolytic action of the current causing a disengagement of the various metals in nascent state, and the cataphoretic power of the same carrying these metals deep into the tissues, increasing the range of their action.

Treatment in the cases of metritis should be given at least as often as three every week.

The current strength should be from 10 to 20 ma. and the duration of each treatment from 10 to 15 minutes. The current should never be turned on till both electrodes are fully in position.

The large electrode in most cases is

preferably placed under the patient's hands after it is well covered and moistened, the patient being cautioned as to the removal of rings from her fingers. Then the other electrode is introduced well up in the uterus, the patient lying in the dorsal position. Now the current should be turned on gently till the desired quantity is obtained, and gradually withdrawn in the same manner later. In this way the patient experiences no shock, and any nervous apprehension of the treatment is avoided.

Treatment should be continued in this manner till the inflammation subsides and the dysmenorrhœa no longer is present. The usual internal medication and the use of douches should be advised in connection with the direct current treatment.

Dysmenorrhœa due to constriction of the tubes by adhesions is better treated by the direct current than by any other method.

The only permanently successful treatment of dysmenorrhœa due to stenosis of the cervix is that by means of the direct current.

The method here consists in the use of the negative pole by means of a set of olive-tipped intra-uterine electrodes of varying sizes. The smallest is used first. It is introduced as far as it will enter the cervix, then the current is turned on to a strength of about 10 to 15 ma. and the electrode gently slipped back and forth till the obstruction yields and the electrode enters the constriction.

At the same sitting, or at the next one, depending upon the patient's condition, the second sized electrode is inserted in the same manner, and following this the third one. There is no need for an anæsthetic, there is no hemorrhage, the patient

suffers less pain, at least in duration than at every month, and leaves the office to walk home and to be about her daily duties without interruption.

This treatment may need to be repeated one or two months just preceding the menstrual period. But after that nothing further is required.

Sometimes we find through long continued obstruction to the free escape of the menstrual discharge inflammation or passive congestions have been set up; if so, further treatment with the direct current is indicated either with the positive or the negative pole according to the conditions found.

The general rule to follow is that when we find relaxations, exudates, constrictions, passive congestions, the negative pole with its stimulating, liquefying and dissolvent properties is required. If, on the other hand, we find active hyperæmia, acute inflammations, sensitiveness, erosions, increased secretions, it is the positive pole we must choose for its constricting and sedative actions.

If the stenosis of the cervix is but one evidence of a general lack of evolution on the part of the generative organs, a continued use of the direct current with the negative electrode for about three months is indicated. During the intermenstrual period give intra-uterine treatments three times a week, thus stimulating the nutrition in these parts.

DISCUSSION.

H. H. Cook, Detroit: I agree with Dr. Solis in regard to the electrical treatment of these conditions because I believe it offers the best results.

Dysmenorrhœa, in a majority of cases, is due to either a displacement of the uterus, or a stenosis of the cervical canal or both, because the displacement, if it be a flexion, may cause a stenosis. Some few cases are due to a lack of development.

The usual plan of treating cases of stenosis has been to give the patient an anæsthetic and produce a rapid dilatation. By this operation you practically tear the tissues, and in the course of six months or a year you get a secondary constriction on account of the contraction of the scar tissue which is formed, and the trouble may become even worse than it was before the dilatation.

When the galvanic current is used in these cases it has a peculiar softening effect and when the stenosis is dilated in this manner the canal becomes soft and patulous and remains open.

If there are any adhesions present they also become softened.

Dilatation of a stenosis by electricity causes no pain, hence there is no necessity of giving an anæsthetic, and the patients can go about their usual vocations without the least discomfort.

There have been various plans of correcting displacements of the uterus by operative measures but the results are not promising. When the round ligaments are shortened for a posterior displacement you do not stimulate the relaxed ligament, but simply stretch a ligament which is already relaxed. By using the electricity the individual fibers of the ligament may be toned up and the ligament placed in a position to exert its own healthy influence in holding the organ in its normal position.

W. F. Metcalf, Detroit: I do not wish to have it pass leaving the impression that the application of electricity will cure all cases of dysmenorrhœa. It seems those who at times find operative procedure necessary have kept quiet. I think that one of the most difficult problems that the clinician meets is the treatment of dysmenorrhœa, it being simply a symptom of a variety of conditions. In the majority of cases the patient does not consult her physician until she has suffered long, and although the original cause may have been constitutional or in her environment, yet local conditions have arisen which in many cases demand mechanical correction. I know that the passing of or the dilatation by a charged sound is less painful, and I know that in cases of hyperthesia of the endometrium we may get cures from the use of electricity. But to make a universal application to all cases of dysmenorrhœa would, I think, be hazardous practice.

First we must determine whether there is suppuration in the tubes. One who treats dysmenorrhœa must be so familiar with the pelvic organs that he can determine the exact condition, or as nearly as possible determine the exact condition, before he institutes any local measures of treatment.

The cause in many cases undoubtedly, is lack of development. The blood vessels are engorged. Matrimony helps many of this class. The stimulation of the marital relations is helpful to the development. The bearing of children subsequently will remove naturally that hypersensitive endometrium, a new one will form, and the whole trouble will be overcome. But the discussion of the subject of dysmenorrhœa really means the discussion of all the ailments that affect the human body in women.

L. J. Hirschman, Detroit: The discussion of dysmenorrhœa, or the treatment of it, it seems to me is just about as logical as to speak of the treatment of pain, or the treatment of cough, or the treatment of any one symptom. I think too many books are wont to say that dysmenorrhœa is a distinct disease, when it is merely a symptom of a disease of the organism.

Now I don't think that all cases of dysmenorrhœa should be treated by electricity, nor do I think all cases which show dysmenorrhœa as one of the symptoms should be treated surgically. There are a great many young women who present dysmenorrhœa as a symptom of other things than diseased organs which may be a lack of exercise, or wrong environment. A great many cases of dysmenorrhœa as a symptom occur in young school girls, clerks, teachers, stenographers, shop girls, young women who are engaged in some occupation, in which they are confined too much indoors. A great many cases of dysmenorrhœa are due simply to systemic impoverishment; due to not getting enough fresh oxygen. A great many girls who work on sewing machines, operated by foot power have dysmenorrhœa. They sit in a cramped position. Although they may have some stenosis, if they are taken into the country out of the shops, and poorly ventilated school rooms, and made to walk three or four miles a day they will need no electricity or surgical interference. They are a class of cases that have been overlooked to a large extent, those in whom, simple outdoor exercise will do the whole business.

Another point: Dysmenorrhœa we have occurring in young girls just starting to menstruate, and every case, as Dr. Solis suggests, should be examined to see if there is a physical cause. I would say in cases where it is difficult to examine the girl, that a combined rectal and abdominal examination will disclose the condition, without embarrassing her by making a vaginal examination or rupturing the hymen. If we look at young girls in school and find out if they are anemic, and run down we will cure 50 per cent. of the cases without any surgical or electrical treatment whatever, simply by making them take regular out-of-door exercise.

J. H. Carstens, Detroit: As has been said, this is a broad subject, but if there is a class of cases that cause a great deal of trouble they are these cases of dysmenorrhœa, and we seem to get them more and more with advancing civilization. It seems to me we have more of them in the large cities than in the country, due to the condition Dr. Hirschman spoke of. Now we very often get dysmenorrhœa outside of diseases of the ovaries or tubes, as mentioned by Dr. Metcalf. A great cause of dysmenorrhœa is a small undeveloped uterus in a young girl, and that small undeveloped uterus is caused by forcing or using up, rather, all the nutrition and energy of the body in the development of the brain by hard study, hard work in school, especially when the girl has not got the mental capacity to quickly grasp ideas. That alone often causes it. They have got to stop this mental forcing and do something else. You have another case where they have that mental capacity, learn easy, go through school just as easy as anything; their menstrual functions are established, they are perfectly well and healthy. They go along—especially school teachers—they go along for ten,

twelve or fifteen years, perfectly well, menstruate regularly, but gradually it becomes more scant, gradually painful, and then they have dysmenorrhœa.

Now you examine this kind of a woman and see what is the trouble, and what do you find? You find they have also an atrophied uterus, a small uterus, a uterus that has not fulfilled its function. That woman ought to have been married and if she had she would never have had any dysmenorrhœa. She has led an abnormal life, that is the reason she has a small uterus.

Now this treatment of Dr. Solis is the correct one. If you haven't used your arm and you allow it to be idle year in and year out, it becomes atrophied, and the only way to get it strong is to use it. The same thing you do by applying electricity; you cause a contraction of those muscles of the uterus, the broad ligament and the round ligament, and gradually bring about a development, an increase in size, stronger circulation, better nutrition and a better organ, and when you have done that your patient won't have dysmenorrhœa. That is a good way to do. Sometimes you can use electricity; I sometimes accomplish the same thing by using a stem pessary, and I leave it in there for six months or a year.

Jeanne Solis, Ann Arbor: I will first state that a pus-tube would be a contra-indication, for we know that pus is always a contra-indication, and electricity would not in those cases be the remedy. If we have a case with such a chronic history that none of the usual methods would avail, then we can examine it and find out the condition. In the class of cases I referred to I claim electricity is an efficient agent, not overlooking giving the patient advice as to exercise, dress, diet, etc., but electricity in connection with these ordinary methods is an efficient means in curing dysmenorrhœa.

THE INTERPRETATION OF RADIOGRAPHS.*

P. M. HICKEY,

Detroit.

As with all new branches, it is well to pause and consider the limitations, possi-

bilities and proper precautions to be observed in this new art.

*Read before the Section on Surgery, Ophthalmology and Otology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 26, 1904, and approved for publication by the Committee on Publication of the Council.

It is safe to assume that radiography is now recognized as one of the important aids in medical and surgical diagnosis. While there may be occasionally met isolated individuals who still fail to recog-

nize the help which may be derived at times from proper radiographic studies, yet the main body of the medical profession recognize radiography as a diagnostic agent whose value is not to be disputed.

We may consider the subject of this paper, viz., the interpretation of radiographs, from two standpoints: First, the technical quality of the radiograph; and second, the experience of the interpreter.

A radiograph may be defined as the record of the density of objects interposed between an energized Crook's tube and the photographic plate. It is important to remember, in considering radiographs, that they are not simple shadow pictures or simple silhouettes, but records of density, the shadings being indicative of atomic weight.

In the radiograph of the hand, which I show you, the bones having greater density than the flesh, offer more obstruction to the passage of the ray; the flesh being of lower specific gravity than the bones, offers still less resistance to the ray; so that in the radiograph of the hand we have a record of the density of the compact bone as distinguished from the cancellous tissue, a differentiation between the bones and the flesh and a differentiation between the finger-nails and the pulp of the finger. It is important to remember that the bulk of the X-rays proceed from a fixed point on the anode, and that they proceed from that point in straight lines, and are not subject to deviation by any procedure that we know of at the present time. With this fact in mind, it is evident that the bodies which are close to the photographic plate will be defined more sharply than bodies at some distance

from the plate. It is also obvious that if the target of the tube is placed too near the plate the rays will be so divergent as to cause distortion. A similar distortion is seen, oftentimes, in kodak pictures, where the nearness of the feet to the camera causes them to assume grotesque proportions. A technically good X-ray negative should possess the greatest possible sharpness in the differentiation of density and should possess the minimum amount of distortion. Contrast in thin parts of the body, such as the hand, arm or foot, is easily secured. When radiographs are made through the denser parts of the body, as the hip, the contrast between the soft tissues and the bones is often slight. This lack of contrast is now recognized to be partially due to a fogging of the plate from the secondary X-rays which are induced in the body, and also from the secondary rays (sometimes called parasitic rays), which are given off from the glass walls of the Crook's tube.

Contrast through the denser parts of the body may be secured by the employment of a tube whose vacuum is sufficiently high to secure proper penetration, and yet not so high as to obliterate the contrast. The effects of the secondary rays can be minimized by the employment of suitable diaphragms, preferably the compression cylinder diaphragm of Schönberg.

Besides the question of contrast, the position of the target of the tube in reference to the part examined is of vital importance. If a fracture of the lower end of the radius, for example, is suspected, the target of the tube should be placed directly above the part to be examined; this point may be accurately determined by a suitable plumb-line. If the target of

the tube is placed considerably to one side, there will result, following the laws of physics, a so-called distorted image.

Having secured a negative possessing the maximum contrast from exposure to a tube properly placed, it should be examined by a suitable light. This may easily be secured by placing the negative upon the upper sash of a window and allowing the light from the sky to shine through, excluding extraneous light; or it can be illuminated by artificial light with a ground glass screen interposed to secure proper diffusion.

The original negative is the proper text to examine. No method of photographic printing will preserve all the detail and the contrast. It is important to remember that in prints from X-ray negatives the question of right and left is reversed. Not long since I was censured by a physician who was examining a photographic print from an X-ray negative for having radiographed the wrong hand, as he did not know that the prints reversed the relations.

The most important topic in connection with the interpretation of radiographs is the experience of the one who makes the interpretation. We are accustomed to demand training on the part of those engaged in diagnostic work with the microscope, the ophthalmoscope and other scientific instruments of precision. It is rare, however, to meet with one who does not feel perfectly competent to make a diagnosis of a radiograph at first glance. In considering radiographs of the joints of children it is most important to have a thorough knowledge of the epiphyses. The radiograph of the elbow, which I show you, is one of the normal elbow at

the age of 15. This appearance of the olecranon, however, has been repeatedly mistaken for a fracture, even by those whose surgical skill is excellent. To avoid mistakes the injured joint should be compared with the corresponding sound joint of the same child.

We must constantly bear in mind, in examining X-ray negatives, that our judgment should be based upon a proper understanding of what we see. This may, perhaps, seem a trite saying, but we should endeavor not to be prejudiced by pre-conceived conclusions. This is one reason why the photographic plate is superior to the fluoroscope. It has aptly been said that while a radiograph will afford us a great deal of knowledge as to the condition of the bones, it will not tell what they *smell* like, and so we should not expect too much information or more than can be afforded by a record of density.

One of the most important teachings which radiography has promulgated is that our old ideas of the healing of fractures should be revolutionized. In considering the interpretation of fractures, we should approach the subject from a strictly modern standpoint and not with ideas of pre-radiographic times. The Roentgen ray has demonstrated that the former exact coaptation which was supposed to be obtained when a fracture was reduced, was and is often only a beautiful idea on the part of the attending medical man; in other words, that perfect reduction of a fracture is rarely secured, and that nature is, indeed, very kind in taking care of our surgical shortcomings. It is obviously improper, therefore, to criticise the setting of a fracture as shown by a

good radiograph, from the standpoint of our old ideas. Criticism of radiographs of fractures should be made only with a full understanding of what radiography has revealed in the healing of these breaks. It is obvious that such knowledge and understanding is not possessed by the laity; and it is, therefore, a great injustice, to ever submit a radiograph of a fracture to a jury of lay minds.

Radiography is coming to be applied as an aid in the diagnosis of thoracic lesions. We have here a field which presents great opportunities for investigation; as much so as was opened up by the stethoscope when Laennec presented it to the profession. Interpretation of radiographs of the chest demands much future study in order that we may utilize the benefit to be derived from this method of physical examination. In the radiograph which I show here of a normal chest we find various shadows which are constantly present in the normal chest. These have been variously interpreted as shadows of the bronchi, shadows of the interlobular pleura, shadows of consolidation. It is the belief of the writer, based upon studies of the injected cadaver, that these tracings represent the course of the larger pulmonary blood vessels.

In considering the future of radiography it is important to remember the possibilities of the stereoscope. Various devices have been employed for giving proper relief and depth in the negatives to be examined. Mr. E. W. Caldwell has recently presented to the radiographic fraternity a very simple stereoscope of which I have here a rather crude model. It is infinitely simpler than the Wheatstone stereoscope which I had the pleasure of

demonstrating to you two years ago. The use of the stereoscope at once removes a criticism which is often seriously advanced that objects are all represented in the same plane. In the image which results from the fusing of carefully prepared stereoscopic negatives, the proper relations and proportions of the various objects represented are preserved. The use of the stereoscope eliminates the question of distortion.

The rapid improvement in the technique of radiography during the past few years causes good hope that similar advancement is destined yet to come. When we consider that we now make radiographs of most of the different parts of the body in a comparatively few seconds where formerly it was a question of as many minutes, we will hope that some time in the future we may be able to take instantaneous radiographs through the thicker parts of the body as is now done through the thinner parts. If this is achieved, we will probably secure a greater wealth of detail in our pictures through the abdominal organs with a corresponding aid in diagnosis of the diseases of the abdominal viscera.

Catarrhal Pyelitis.—(Conclusions).

1. Pyelitis is of much more frequent occurrence than is generally supposed.
2. It is a frequent cause of prolonged discharge.
3. Local treatment of the pelvis of the kidney is the rational one for this disease and is quite feasible.
4. Beginning nephritis, when due to pyelitis, may be cured permanently by lavage of the renal pelvis.
5. By curing the inflammation in the pelvis of the kidney, nephritis may be guarded against.
6. Catheterization of the ureters is not as difficult as is generally supposed, and it is not accompanied by such dangers as many deem it to be.—(*American Journal of Urology*, October, 1904, Wm. Field Ayres.)

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Editorial

IMMUNITY. ITS THEORETIC-SCIENTIFIC SIDE.

In a recent number of one of the Medical weeklies*, there appears an abstract of an address delivered by Wassermann, of Berlin, before the New York Pathological Society. Some of the points made appear to us as most interesting and highly suggestive.

According to the side chain theory of Ehrlich, specific substances, developed in the serum by immunization, are nothing else than those portions of cells of the living organism for which the substances against which we immunize, possess a specific affinity. "Receptors" are those portions in the organism for which a substance possesses such specific relations. The toxin is first bound to the body cell. Following Weigert's law an overproduction of the "receptors" occurs. The excess of these receptors is cast into the blood stream. Wassermann has been able to demonstrate experimentally three stages: 1. The union of toxin and receptor. 2. The overproduction of receptors. 3. The thrusting off of the superfluous receptors into the blood.

In what way do toxins and anti-toxins unite? Wassermann is evidently a believer in the chemical theory. At first there is only a loose combination between

the two. This gradually and steadily becomes firmer. His experiments along this line are most interesting. They also confirm the work of Meyer and Ransom (reported by Inglis†) that the tetanus poison finds its way to the spinal cord by the nerve path, traveling up the axis cylinders and not through the blood or lymph circulation.

Following Ehrlich's theory, every individual portion of an organism, against which we can immunize, corresponds to a counter group, the receptor of the living organism. The body of certain bacterial species is not a simple homogeneous mass but is composed of several parts. The serum then is made up of the sum of the so-called "partial" elements. In certain species of bacteria, there are races, which from a biological standpoint are differently constituted from other races of the same species. We are therefore compelled to make such sera by means of a large number of cultures of the bacterial species in question, which sera is styled "multipartial" or "polyvalent."

The diphtheria serum now in use acts only on the toxin secreted by the diphtheria bacillus. By a certain method of immunizing animals, a new kind of diphtheria serum has been made, which specifically affects the diphtheria bacillus, or substances present in it. This new diphtheria serum is a "multipartial" serum.

Martin, of the Pasteur Institute, at Paris, and Wassermann, of Berlin, found that the diphtheria bacilli could be made to disappear from the throats of convalescents and healthy children. The "multipartial" serum was dried in vacuo, pul-

*New York Medical Journal, Oct. 1, 1904.

†Journal Mich. State Medical Society, July, 1904.

verized and used as a pastille for the throat and insufflated as a powder for the nose. It was found that it caused an agglutination of the great majority of Klebs-Loeffler bacilli which could then be removed by an indifferent fluid. The clinical results so far have been very favorable. If they continue good, "multi-partial" diphtheria serum should be a great aid in the prophylaxis of this disease.

THE RELATION OF VISCERAL DISEASE TO MENTAL PHENOMENA.

It is generally accepted that mental unbalance may accompany cardiac disease or vascular degeneration, the poisoning of kidney disease or the effects of alcohol or other toxic agents, or change in a gland necessary to normal bodily changes. But the study of these visceral changes from the mental standpoint has been insufficient. Some three years ago Henry Head drew attention to mental symptoms seen in diseases of the different viscera which he regarded as distinct.

In a late issue of the Johns Hopkins Hospital Bulletin, Dr. Gamble reports ten cases illustrating this topic; that many cases of mental illness start with different conditions of physical disease. In three cases of mitral stenosis one exhibited hallucination of sight; one alternation depression and exaltation and one suspicion. In one case of asthma there was hallucination of smell and in another unreasoning fear. A case of adherent pericardium there had hallucination of hearing with alternate depression and exaltation. All these could be persuaded that their moods had a physical basis.

In another series of four cases such per-

suasion was impossible. Briefly, a case of arterio-sclerosis had loss of attention and memory, confusion of ideas; a case of bronchial asthma had dreams of a gigantic snake which he was fighting. At first they occurred when half awake and he shook them off when fully awake, but gradually he was never rid of them. A case of aortic regurgitation saw indistinct figures, which gradually assumed definite shapes and he believed they told of the future.

A fourth case of mitral stenosis began with pleasant dreams but they grew disagreeable. She conversed with dead people and believed she had the power of prophesy.

Certainly these facts are suggestive, and doubtless every practitioner can recall cases allied to them. If they shall influence all to carefully observe every case, great light may be cast on the beginnings of mental diseases. Farther we may finally recognize the beginnings of mental disease and stop its progress by relieving the physical disease which is its basis.

ETIOLOGY OF SUMMER DIARRHŒA.

Some time ago the Rockefeller Institute for Medical Research began to investigate the bacteriology of the summer diarrhœas of children. The work has been done in various cities under the supervision of Dr. Simon Flexner. He draws the following conclusions:

(1) *Bacillus dysenteriae* can be isolated from the intestinal discharges and the intestinal mucosa of a large percentage of children suffering from the diarrhoeal diseases prevailing along the Atlantic sea-

board of the United States during the summer months.

(2) *Bacillus dysenteriae* is to be sought especially in the mucus thrown off by the intestinal mucosa in these diseases and in the substance of the mucous membrane itself. The bacillus exists in smaller numbers in, or is recovered with far greater difficulty from, the fecal matter that often is admixed with the mucus.

(3) Blood admixture makes the isolation of the bacillus of dysentery from the intestinal discharges more readily accomplished, as it generally indicates infections of severer grade; but the mere presence of blood is of less moment than the occurrence of mucus, since it is in the latter material that the bacillus of dysentery resides.

(4) The number of colonies of *Bacillus dysenteriae* recoverable in cultures is in a general way indicative of the severity of the lesions and symptoms of the disease. Some cases, however, of marked severity yield few colonies, and others of marked mildness a larger number of colonies of the bacillus.

(5) The total number of colonies of *Bacillus dysenteriae* obtainable, is, as a rule, far below the number of colonies of the usual intestinal bacteria which develop upon the plates; but in a very few instances the number of colonies of the dysentery bacillus equals or exceeds that of all other organisms, and in exceptional specimens the bacillus alone appears in the cultures.

(6) The type of *Bacillus dysenteriae* which preponderated in the children is the so-called "Flexner-Harris" organism. The "Shiga" type of the organism is exceptionally met with, and occasionally both types are found in association.

(7) Types of *Bacillus dysenteriae* of less well-established properties have also been encountered. Among these are bacillus "x" of Hiss and Russell and another indistinct type which demands additional study before admission to the group, whose special property is its power to act upon lactose with acid production.

(8) The blood of the children suffering from diarrhoeal disease agglutinates at times the bacillus of dysentery in high dilutions; but this agglutination by the blood does not proceed hand in hand with the occurrence of the bacillus in the intestine. The agglutination reaction is not to be treated as an index of the presence of, or infection with, *Bacillus dysenteriae*.

(9) The close association of *Bacillus dysenteriae* with the intestinal mucosa, and the increased numbers of the organism found under definite pathological conditions, the established pathogenic action of the bacillus for human beings, and the specific blood changes met with in many of the cases of diarrhoeal disease, all speak for a relationship of cause and effect between the bacillus of dysentery and the lesions of the intestine.

(10) It is probable, although it is not proved, that *Bacillus dysenteriae* appears at times among the saprophytic bacteria of the contents of the intestine. The frequency of its isolation in all grades of diarrhoeal disease in children would be in conformity with the view of such a saprophytic existence and the acquisition, under pathological conditions, of pathogenic and invasive properties.

(11) Should it be established that *Bacillus dysenteriae* is occasionally or regularly to be found among the bacteria of the cavity of the intestine, the dangers

of the entrance from without of specially pathogenic examples of the organism are not to be disregarded. The contagiousness of bacillary dysentery among adults and the rarer instances of diarrhoeal contagion among children, prove the necessity of recognizing such an extra-infectious origin of the disease.

(12) Streptococci in large numbers are found frequently associated in cultures with *Bacillus dysenteriae*. Both organisms survive side by side and would seem not mutually to inhibit each other's development. What part is to be ascribed to each in the production of the lesions of the intestine and the symptoms of disease is not established by this investigation. Nor is the possible action of any other of the many bacteria of the discharges excluded by the special findings of the investigation.

(13) The central fact brought out by this collective investigation is the frequent occurrence in the diarrhoeal diseases of children of a specific micro-organism, which hitherto has been held to be of special pathogenic action in human beings, and to be the cause of that form of dysentery among adults and also among children which is characterized by neurotic and pseudomembranous lesions of the intestine and marked infectiousness.

(14) The lesions of the intestines observed in the children who have succumbed to the diarrhoeal diseases treated of in this investigation have been very varied in character; but there has rarely been found among them the particular kinds of pathological changes which characterize pseudomembranous enterocolitis.

ICTERUS AND SYPHILIS.

There have already been a number of cases reported where icterus recurred during the secondary stage of syphilis. There seems to be no uniformity in opinion among the various writers as to its etiology. The following have been given as causes of the pigmentation:

(1) Enlarged glands which press upon the bile ducts.

(2) Secondary eruptions in the intestine causing an obstruction in the flow of bile.

(3) A general catharrhal condition.

(4) Hyperaemia of the bile capillaries, arising from inflammation of the liver.

(5) Changes in the blood and blood-vessels.

(6) Changes in the nervous system.

The jaundice may accompany the secondary symptoms of syphilis or it may appear alone; it may disappear and reappear again like the eruptions; it lasts from a few days to a few months; and untreated it may become chronic. Occasionally the disease assumes a malignant type with delirium, hemorrhage, coma and death after fifth or sixth day.

Under specific treatment the jaundice will fade away.

THE PASSING OF A VETERAN EDITOR.

On Aug. 8th, the *Medical Record* announced the resignation of its editor Dr. George F. Shrady. Since the founding of that journal, thirty-eight years ago, Dr. Shrady has been its editorial head. Backed by the great medical publishing house of William Wood & Co., he has

made the *Record* the mouthpiece of the great American metropolis. Doubtless neither the firm, its journal or editor have commended themselves to all—but such as desired to keep in touch with New York City and its attaches were compelled to study the *Record*. If they desired to communicate with or favorably influence medical New York, the *Record* presented a valuable medium.

In the ethical, factional, educational, or society conflict the *Record* has always been found on the side which advantaged the interests of the house, primarily and other interests as much as practicable.

Under existing conditions Dr. Shrady pushed his journal to the front and valiantly promoted the interests of the medical profession. It collected news from every portion of the world, and placed it before its readers in a readable manner; it discussed in editorial columns the facts of greatest interest; it gave prominence to the writings of the leaders in medical science; medical discussions and condensations from other publications were duly considered.

As progressive physicians were compelled to keep in touch with the activities of New York, our readers are familiar with Dr. Shrady's record as an editor. Fewer knew him personally as he rarely mingled with the great National Association, or ventured far west of the Atlantic Coast. Personally he was a most delightful personality, true to his friends and all who knew him were such. He won considerable reputation as a surgeon, but his future fame will rest on his record as a medical editor. We cannot recall

one who has continuously served more than a generation in this field—a fact which speaks well for all concerned—and indicates the possibility of an editorial specialty as a career. With one voice the editorial medical fraternity recognizes his editorial ability; the excellence of the three score volumes of the *Record* which he shaped; his genial personality; and extends a hearty wish for many years of enjoyable prosperity.

DEATH OF DR. HAMILTON E. SMITH.

Dr. Hamilton E. Smith died suddenly, October 8, 1904, at his home in Detroit, of "heart failure."

Dr. Smith was born in Buffalo, N. Y., January 22, 1840. He passed through Victoria College, Toronto, and graduated from the medical department of the University of Buffalo. In 1862, he entered the army as assistant surgeon of the Twenty-seventh Michigan Infantry. The following year he was promoted to the rank of surgeon. He was the first officer mustered in and the last mustered out of his regiment.

After the close of the war, Dr. Smith came to Detroit and has practiced medicine here ever since. He was a member of the Masonic fraternity, Knights of Pythias, the Loyal Legion, Fairbanks Post, G. A. R., the Quarter of a Century Medical Club, Wayne County Medical Society, Michigan State Medical Society and other organizations.

"He was gentle as a child; yet knew no fear; a man of pronounced convictions; truthful to a fault, yet always just."

County Society News.

The management of the Journal desires to make the department on County Society News of the greatest possible interest to all practitioners in the State. This can only be accomplished through the assistance of the Secretaries of the various County Societies. It is therefore requested of them that, whenever possible, they send an abstract of the papers read before their Society and the discussions aroused by them. If for any reason this abstracting on the part of the County Society Secretary is impossible, it is requested that the papers be sent to the editor's office where they will be abstracted and returned to the writer. Anything which will be of interest to all in the way of items concerning members, resolutions introduced, etc., will gladly be received. It is only by the persistent cooperation on the part of the County Society Secretaries that this department can reach its greatest usefulness.

WAYNE COUNTY.

The Wayne County Medical Society held its first general meeting since the summer vacation, Sept. 19, 1904. The retiring President, C. G. Jennings, read a very interesting paper upon the work of the past year, dealing with the progress of the Society and its relations with the other and larger medical organizations, of which it is a member. Guy L. Kiefer, the new President, assured the members that he would try to carry out the work of the Society during the coming year to the best of his ability, and that it would be his endeavor to get all the reputable and eligible physicians in Wayne County into the Society. The retiring Treasurer, Guy L. Connor, read a report, showing a real balance of about \$225 in the treasury, as against \$8 of the previous year. After the meeting an informal lunch was given to the members by the retiring President, C. G. Jennings.

WILLIAM J. STAPLETON, JR.,
Secretary.

Miscellaneous.

NEWS ITEMS.

Vienna is to have the largest hospital in Europe—to cover sixty acres—arranged for teaching purposes, to cost \$10,000,000. It will take ten years to construct.

The Montreal General Hospital has decided to allow foreign graduates in medicine, including those from the United States, to occupy positions on its resident staff. Formerly only graduates of institutions in the British dominions were eligible.

At McKinney, Texas, a verdict was returned against the defendant in the \$30,000 suit of Mrs. Hutchins against the St. Louis and Southwestern Railway Company. The husband of the plaintiff was accidentally killed in the railroad yards at Wylie.

With the October issue, *Gaillard's Medical Journal* and *Southern Medicine* will be consolidated and published under the title of *Southern Medicine & Gaillard's Medical Journal*.

Prof. Poffa, of the University of California, reports to the Department of Agriculture, experiments on men engaged in hard manual labor and students working to support themselves while studying, showing that nuts are the cheapest source of energy, and that peanuts are in the front rank. Even nuts are outranked by beans. On fifteen cents daily his subjects were supported on these articles and kept in perfect health. To the nuts and beans he added a limited amount of cottage cheese and eggs and fruit.

The opinion of Judge Frazer, of Detroit, has been supported by the decision of a St. Louis, Mo., judge in that the financial condition of the patient should not be considered in a doctor's charge for professional service, but rather the character of the service, the seriousness of the complaint, the skill and time required and the result. This may be accepted, provided that this total may be reduced so that it may not unduly cripple those of limited means; reduced because of the doctor's willingness to recognize the fitness of his contributing a portion or all his bill to a particular patient. The proper bill is the same to all, but a portion given to some because of their inability to meet it without distress. One may not add to a proper bill because of a patient's wealth, but he may give a portion of a bill to a poor person.

Lorain, O., established a modern filtration plant in 1896. During the five years preceded-

ing August, 1893, there had been but fifty-seven cases of typhoid fever. At that date the plant was shut down for repairs and during the next month there were sixty-seven cases of typhoid fever. The plant was then put into operation and the cases have gradually lessened. Clearly the town should have two filtration plants so as to have pure water uninterruptedly.

Johns Hopkins Hospital will do systematic work on tuberculosis. A new building is designed to combine treatment of patients with rooms for investigation. Mr. Henry Phipps has contributed twenty thousand dollars to aid the work.

The Western Reserve Medical School will establish a tuberculosis dispensary. The houses of the infected will be registered; education of the people in hygiene prescribed; visits to schools made, and instructions of the infected established.

It is estimated that three hundred physicians will be needed at Panama to care for the fifty thousand men to be engaged in the work in the canal. There are plenty of doctors for this need, without starting more doctor factories.

Governor Pedro Arguelles, of the State of Tamaulipas, has issued an order prohibiting kissing sacred pictures and images in the churches. This order is given to prevent the transmission of contagious diseases.

During the past nine years Bellevue Hospital has treated fifty-one thousand drunkards.

During much of the past summer the deaths from cholera in Teheran, Persia, numbered several hundred daily.

San Francisco is to have a great Medical Library, the gift of the wife of the late Dr. L. C. Lane.

A branch of the Walker-Gordon Laboratory has been installed at 126 Miami avenue, Detroit. This makes the second branch in Michigan, the other being at Grand Rapids.

Dr. Flemming Carrow has resigned the chair of Ophthalmology, Otology and Laryngology at the University of Michigan. To fill this vacancy, Dr. W. R. Parker, of Detroit, has been appointed Professor of Diseases of the Eye, and Dr. Canfield, of New York City, Professor of Diseases of Ear, Nose and Throat.

Dr. George F. Butler, formerly of Alma, Mich., has removed to Chicago. He has been appointed Professor of Therapeutics in the College of Physicians and Surgeons and Professor of Medicine in Dearborn Medical College.

Dr. D. L. Treat is Mayor of Adrian; Dr. V. Sisung, Mayor of Monroe, and Dr. J. D. Riker, Mayor of Pontiac. All are prominent members of their local medical societies.

Dr. O. A. Griffin, of Ann Arbor, has returned from Europe, where he has been visiting the various eye and ear clinics.

At the meeting of the American Association of Obstetricians and Gynecologists, held at St. Louis, September 15, 1904, H. W. Longyear, of Detroit, was chosen President. The American Academy of Ophthalmology and Otolaryngology elected Eugene Smith, of Detroit, Third Vice-President, at its meeting in Denver, August, 1904.

Dr. Herman Knapp, of New York, celebrated the fiftieth anniversary of his graduation at Gussen.

American Confederation, of Reciprocating Examining and Licensing Medical Boards held a meeting at St. Louis, Mo., October 25, 1904. The following committees reported:

Report of Committee on Uniformity as to Scope and Character of Examinations by State Medical Boards.

Report of Committee on Uniformity of Entrance and Graduation Requirements to be demanded of Medical Colleges.

Report of Committee upon the question of Advanced Standing.

Report of Committee on Uniformity of Forms.

The Detroit Academy of Medicine held its annual meeting October 11, 1904. The following officers were elected: President, Wadsworth Warren; Vice President, P. M. Hickey; Sec'y-Treas., Harrison D. Jenks; Director, Justin E. Emerson.

CHANGE IN MEMBERSHIP.

(Sept. 15th to Oct. 15th.)

NEW MEMBERS.

Grace Clark—Detroit, Mich.
J. O. Cobb—Detroit, Mich.
B. R. Corbus—Detroit, Mich.
D. A. Dickson—Detroit, Mich.
B. V. Estabrook—Detroit, Mich.
E. H. Haywood—Detroit, Mich.
T. J. Henry—Detroit, Mich.
R. J. Jamieson—Detroit, Mich.
C. H. Judd—Detroit, Mich.
William McEwen—St. Charles, Mich.
W. F. Morse—Saginaw, Mich.
C. F. Pequignot—Detroit, Mich.
H. M. Rich—Detroit, Mich.
W. J. Seymour—Detroit, Mich.
C. W. Shotwell—Detroit, Mich.
V. L. Smith—Detroit, Mich.
R. C. Stone—Detroit, Mich.
W. C. Watson—Pontiac, Mich.
L. L. Zimmer—Detroit, Mich.

CHANGE OF ADDRESS.

D. L. Alexander—Sanilac Centre, Mich.
G. F. Butler—Chicago, Ill.
F. Carrow—Detroit, Mich.
R. D. Sleight—Battle Creek, Mich.
A. G. Snyder—Sea Breeze, N. J.
W. H. Veenboer—Grand Rapids, Mich.

DIED.

Hamilton E. Smith—Detroit, Mich.

BOOKS RECEIVED.

A TEXT-BOOK OF CLINICAL DIAGNOSIS. By L. Napoleon Boston, A.M., M.D. W. B. Saunders & Co., Philadelphia, New York, London, 1904.

DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M.D. E. B. Treat & Co., New York City, 1904.

PRACTICAL ELECTRO-THERAPEUTICS. By Franklin B. Gottschalk, M.D., T. Eisele, Chicago, 1904.

Correspondence.

Secretary:—Will you kindly appoint delegates from your State Medical Association to the Pan-American Medical Congress, which will be held in Panama, Republic of Panama, from the fourth to the seventh of January, 1905?

Yours sincerely,

RAMON GUITERAS, Sec'y & Treas.

Any member of the Michigan State Medical Society desiring to attend these meetings, kindly notify me at once.

A. P. BIDDLE, Sec'y.

Haemagglutinins of Bacterial Origin.—(Conclusions)—The filtered autolyzed products of a number of bacteria possess haemagglutinins of low activity, the formation of which may be stimulated by previously growing the micro-organisms on media containing fresh red blood cells. The injection of these filtrates into dogs and rabbits is followed in some instances by the occurrence of liver necroses with associated fused red blood corpuscle thrombi; like thrombi may occur in other organs. These thrombi are similar in structure to those generally described as hyaline thrombi. The demonstration of agglutination in vitro and the association of the fused red cells with the liver lesions suggest a relation of the agglutinins to the lesions. The relation cannot be considered as proven, for it is possible to exclude the effect of toxins acting directly upon the liver cells. On the other hand the similarity of the lesion to the very definite necroses caused by the powerful agglutinin of cytolytic immune sera strongly supports such a relation.—(*The American Journal of the Medical Sciences*, October, 1904, R. M. PEARCE and C. K. WINNE, JR.)

Kidney Capsule.—(Conclusions)—Decapsulation of the kidney in healthy animals may and usually does cause an interstitial nephritis. New blood vessels are formed on such adhesions as occur, these vessels being of but a temporary character, as they are later occluded by the contraction of the cicatricial tissue surrounding them. The ultimate result is a new formed capsule not differing essentially from the original one, except in its tendency to persistent and uneven contraction.—(*The American Journal of the Medical Sciences*, October, 1904, HAVEN EMERSON.)

Aero-Urethroscope.—The advantage of Wasserthal's instrument over the ordinary urethroscope are as follows:

1. A larger surface of the mucous membrane can be seen by the observer.
2. An idea of the conformation, elasticity, and resistance of the urethral wall is easily obtained.
3. The compression of air at the end of the tube gives a larger field of vision. Glands, polyps and inflammatory areas appear more distinct.
4. Application of this method has its limits.—(*Annales des Maladies des Organes Genito-Urinaires*, May 1, 1904, WASSERTHAL.)

Book Notices.

Under the Charge of

RAY CONNOR.

RADIOTHERAPY, PHOTOTHERAPY AND HIGH FREQUENCY CURRENTS. The Medical and Surgical Applications of Radiology in Diagnosis and Treatment. By Charles Warrenne Allen, M.D., Professor of Dermatology in the New York Post-Graduate Medical School. Octavo, 618 pages, 131 engravings and 27 plates. Cloth, \$4.50, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

For many years Dr. Charles W. Allen has been known as a fluent but careful writer with the happy faculty of being able to put his thoughts into language readily grasped by the student of medicine. For years he himself has been an earnest student, a teacher and a contributor to medical journalism, especially along the lines of dermatology. The present volume is the achievement of these years of preparatory work. Written in his clear, easy style, it contains the substance of all which pertains to radiotherapy and phototherapy.

Starting in with the history and character of the Roentgen Rays, a careful description is given of the apparatuses and accessories, especially of the tubes; which is followed by details as to the method of administration, modes of procedure, etc.

In general medical diagnosis the thoracic cavity offers the best field of observation; but to the internist and in the field of obstetrics and gynecology the sphere of usefulness is limited. To the surgeon, however, no greater aid to general surgical diagnosis has been given in many years, not only in the location of foreign bodies, calculi, etc., but in the determination of injuries to joints, of diseased bones and other pathological processes.

Under the general considerations of radiotherapy much space is devoted to the treatment not only of the epithelioma (the rodent ulcer, so-called, offering the ideal therapeutic field) but to the inoperable cancer, the sarcoma and to the many diseases of the skin in which this agent has been tried and found useful; recognition being given to its dangers and the best means of protection.

Another part is devoted to Light, a description of the theory, its source, physical properties and action on bacteria. Under phototherapeutics reference is made to the influence of the sunlight, the incandescent, the arc and the blue light baths. Another part is devoted to the physical properties of the sun and arc light, another to radium, and to their therapeutical applications.

Not the least interesting and instructive is the excellent chapter devoted to the "High-frequency Currents," richly illustrated and detailing the history, the method of produc-

tion, the physiological properties and effects and therapeutical applications.

The whole work abounds with illustrations of apparatuses, diagrams and photographs of clinical cases.

A. P. B.

TAYLOR ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS. A Practical Treatise for Students and Practitioners. By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. New (8d) edition. Revised and enlarged. Octavo, 757 pages, with 163 illustrations and 39 plates in colors and monochrome. Cloth, \$5.00; leather, \$6.00; half morocco, \$6.50, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York, 1904.

It seems hardly necessary to add praise to the work of Dr. R. W. Taylor, as it has been known to the medical profession of the world for many years as a practical, compact yet comprehensive, authoritative treatise on the diseases affecting the genito-urinary organs of both sexes (those which are purely gynecological excepted). The new edition, revised and enlarged, brings the history of these important diseases down to date. Not only is gonorrhœa with its numerous and extensive complications considered in all its phases, but the various other affections of the penis, the scrotum, the urethra, the prostate, the testis and appendages, the bladder and the kidney are carefully viewed alike from the medical and the surgical standpoint. Being essentially a clinician, and a clinician of extensive experience, Dr. Taylor's views as to treatment are especially interesting. His methods are always conservative, and he does not hesitate to sound in no uncertain terms a warning against the hasty acceptance of fads in the treatment of these serious diseases, especially exemplified in the treatment of acute gonorrhœal urethritis.

In the consideration of the chancroid Dr. Taylor still clings to his clinical experience that the chancroid is not a specific process and that it is not due to a special specific cause, but that it may arise from many different pyogenic processes, frequently arising *de novo* when the general parts are subjected to irritation and uncleanness, and especially when planted on a syphilitic soil.

More than one-third of the volume is given to the consideration of syphilis, not only as found upon the skin and mucous membranes, the hair, the eye, the nose and the ear, but as exemplified in the more serious affections of the internal organs, the vascular and the nervous systems; with a chapter upon hereditary syphilis.

Like all syphilographers of experience, he strongly emphasizes the statement that the proper time to begin systematic medication in syphilis is the date at which general manifestations show themselves. This chapter on the general methodical treatment of syphilis is excellent.

A. P. B.

A TEXTBOOK OF MATERIA MEDICA: Including Laboratory Exercises in the Histologic and Chemic Examinations of Drugs. For Pharmaceutic and Medical Schools, and for Home Study. By Robert A. Hatcher, Ph. G., M.D., and Torald Sollmann, M.D., 12mo., volume of about 400 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Flexible leather, \$2.00, net.

This work was written with the object of popularizing the "Laboratory Method" in the study of organic materia medica. The almost proverbial dryness of this subject can be traced directly to the neglect of objective study. Materia medica can not help but become more interesting when the student leaves the monotonous descriptions of the various text books on this subject and goes directly to the specimens of the drugs and studies them with the aid of the laboratory.

The book is divided into three parts; the first comprises a guide to the study of crude drugs, both official and unofficial; the second deals with plant histology and the third with chemic exercises in materia medica. Throughout the entire work general stress is laid on the recognition of adulterations.

The appendix is excellent and adds much to the value of the book. Like most of the publications of W. B. Saunders & Co., the mechanical work is all that could be desired.

G. L. C.

TEXT BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D. Seventh Edition. Octavo. 539 pages, illustrated. Cloth, \$3.75, net. W. B. Saunders & Co., Philadelphia, New York and London, 1904.

When the first edition of Penrose's Diseases of Women appeared in 1897, it immediately became one of the most popular and widely used text books in the medical schools of the country. That this popularity is based on merit is proven by the fact that new editions have rapidly followed, appearing in 1898, 1899, 1900, 1901 and 1902.

It is a work designed primarily for the medical student and in it are to be found the "best teaching of modern gynecology, untrammelled by antiquated theories or methods of treatment." Nearly every page contains sound, practical teaching, clearly and forcefully set forth. As a rule, but one method of treatment is given and when one has finished reading a chapter, one has the author's views clearly in mind. A work prepared in this way is necessarily incomplete, but for students, who are often confused by a multiplicity of methods of treatment and for the busy practitioner who wishes to learn the best and generally accepted method, the book is especially helpful and indeed unsurpassed.

The new (seventh) edition has been thoroughly revised and brought abreast of the times.

The first chapter deals with the etiology of gynecologic affections. The second, in

which the methods of examination are set forth, is particularly well prepared. Chapters V, VI and VII deal with the mechanism of perineal laceration and methods of repair. The primary operation is strongly urged and Emmet's operation is advised.

Succeeding chapters deal with retroversion. Of 211 cases of ventro suspension, followed subsequent to operation, 131 were relieved, 49 improved and 31 unimproved. Twenty-eight became pregnant and 20 of these went to full term.

The tumors of the uterus are quite fully discussed. Regarding cancer of the cervix, the author says: "The hope for better results from the surgical treatment of cancer of the cervix depends, not upon improvement in the surgical technique, but upon the ability of the general practitioner to recognize the disease in its earliest stages, before inaccessible structures have become involved."

Lack of space prohibits emphasis of other good points. The text is well written, and the illustrations are fairly good. Saunders' press-work is always of the best.

B. R. S.

A HAND-BOOK OF SURGERY. For Students and Practitioners. By Frederic R. Griffith, M.D., 12 mo. volume of 579 pages, containing 417 illustrations. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Flexible leather, \$2.00, net.

This little work is gotten out as a companion piece to Dr. Stevens' Manual on Medicine, and aims to do for surgery what that valuable little work does for medicine. If one were to make any criticism, it would be that too much is included rather than too little. In addition to the entire field of general surgery, the various branches of special surgery, such as the Eye and Ear, Genito-Urinary Surgery, etc., are covered. A chapter is also given up to Medicolegal Examinations.

It is obvious that in such a broad field, only the merely outline can be given and numerous omissions must occur. The author has had practical points chiefly in mind and at the same time has not forgotten the needs of the student in class room and quiz.

The illustrations are very numerous and for the most part very much to the point. An index closes the volume. The binding and general appearance of the book are similar to Stevens' well known Manual on Medicine, and this makes an attractive and convenient volume. Properly used, it should be of great assistance to the student.

REGIONAL MINOR SURGERY. By George Gray Van Schaick, M.D. Second Edition, enlarged and revised, 228 pages, bound in cloth, illustrated. Price \$1.50. International Journal of Surgery Co., N. Y., 1904.

The usefulness of this little book is best shown by the speedy demand for a second edition. The present work contains all the good points of the original and has added to it an article on Foreign Bodies in the Air Passages and Esophagus. The general plan of the work and its sphere of usefulness has not been changed in the present edition.

Progress of Medical Science.

MEDICINE.

Under the Charge of

HARRISON D. JENKS.

Use of Strychnine in Fevers—In a series of measurements, aggregating over 5,000, taken at frequent intervals on patients with febrile conditions, strychnine was found to have no effect upon the blood pressure. Cabot tried the strychnine by mouth and also subcutaneously; the average amount for the day was $\frac{1}{8}$ grain. The observations were made with Stanton's modification of the Riva-Rocci instrument. He found the average pressure in those who had the strychnine no more than in the control experiments where none was used. He concludes: "I have been unable to convince myself that strychnine exerts any influence upon the blood pressure of febrile cases when given in the manner and dose mentioned; to me one of the most striking features of the investigation was the fact that the sight of the dinner tray or the prospect of getting up produced a most obvious, though transient, rise in the pressure," while the strychnine had no effect. He does not say that strychnine has no value.—(R. C. CABOT, *Boston Medical and Surgical Journal*, Sept. 29, 1904.)

Myocardial Disease—Jackson says this class of disease may arise (1) from disturbance within the heart, as closure of the coronary artery, or (2) general arterio-sclerosis, by far the most common cause; (3) renal disease, especially the interstitial form; (4) no especially etiological factor except hard work; (5) abuse of alcohol. Here the heart is often of great size; perhaps due to the toxæmia; (6) when no etiology can be discovered. Myocardial disease is a more important disease than is usually recognized, and will represent half of all the so-called "heart disease" cases. Hence its importance is as great as the valvular cases. In discussing this paper, Pratt said: "Even in cases of chronic endocarditis the condition of the heart muscle is more important than the valvular lesion, the most frequent cause of broken compensation, according to Krehl, Kelle, and Albrecht, is acute interstitial myocarditis. (*Boston Medical and Surgical Journal*, Sept. 29, 1904. HENRY JACKSON.)

The Fly in Tuberculosis—Hayward has made some investigations upon the role that the common house fly, *Musca domestica*, and

the blue bottle fly, *Musca Cæsar*, might have in the spread of tuberculosis. Fourteen flies were used in every experiment. The flies were confined in a cage, fed on milk and allowed to defæcate upon clean cover glasses. No tuberculosis germs were found; then flies fed on tubercular sputum were similarly allowed to defæcate and the bacilli were found. To prevent contamination by the feet and wings, a fine mesh wire screen was put over the sputum, and the flies could feed without getting anything on the feet or wings. Flies fed on the sputum died in 2 or 3 days, though the flies fed on milk lived 8 or 10 days; the sputum apparently caused diarrhœa.

Culture plates made from the fæces incubated for 2 weeks, showed tubercle bacilli on the glycerin agar.

The fæces were rubbed with sterile water and injected into guinea pigs. The pigs developed tuberculosis.

It would, therefore, seem as though the bacilli could be transported through the intestine of the fly unaltered, and that tuberculosis might be transmitted by flies. (E. H. HAYWARD, *New York Medical Journal*, October 1, 1904.)

Pleural Effusion in Heart Disease—Steele, in the *Journal of the American Medical Association*, October 1, 1904, gives a careful paper on pleuritic effusions in heart disease, especially in the valvular forms. Effusions from all other causes than simple heart disease were excluded. The right side was affected in 60 per cent. of the cases. Double hydrothorax is rare. The theory that best explains the right side effusion supposes that the enlargement of the right heart, especially of the right auricle, can press on the root of the right lung and obstruct the *vena azygos major*. An elaborate summary of 31 cases of pleuritic effusion is given, in many of which autopsies were performed, and enlargement of the heart demonstrated. He says: "It seems probable then that the mechanism of the formation of fluid in these cases of pleural effusion in heart disease is not that of a simple transudate, but that congestion of the pleura produces a chronic inflammation of low grade, and that the effusion is both a transudate and an exudate."

SURGERY.

Under the Charge of

MAX BALLIN.

Gangrene of the Hollow Viscera—Gangrene of the Hollow Viscera of the intestines is an affection rarely observed.

Kenerson gives the history of three cases:

1. A man who had been a steady drinker became suddenly ill with intestinal symptoms, nausea, vomiting, diarrhoea and severe pain. Within twenty-four hours the general symptoms became those of a grave intestinal disturbance; temperature 99.5°; pulse 140; face was covered with perspiration; the abdomen was tympanitic, and very sensitive, without showing any localization of pain. The patient was operated upon and on opening the abdomen, serous bloody fluid escaped. The greater part of the small intestine was normal in appearance and feeling; the colon was not involved. There were no adhesions and no localized abscess. A part of the small intestine for a space of about 26 inches was almost in a necrotic condition. The omentum was normal, the mesentery of the necrotic part was swollen, hard and filled with swollen lymph glands. Eighteen inches of the gut, which was practically black, was resected. The patient died six hours after operation.

2. The second case was a man 45 years old. From his previous history, a record of syphilis was obtained. His sickness began slower than in the first case, but with the same abdominal symptoms; great abdominal pain, distention of abdomen, vomiting, diarrhoea. Operation revealed about 16 inches of necrosis of the small intestine. The other findings were as in the first case. No resection was attempted. The patient died the next day after operation.

3. A boy 9 years old was kicked in the abdomen by a playmate. After this, he became sick with intestinal symptoms as in the above cases. At the operation, about 18 inches of the small intestine were found to be very much blackened and necrotic in places. Colon and appendix were intact. The mesentery of the necrotic part was swollen, thickened and hard. After a long period of suffering, the boy recovered.

Kenerson believes that all three of the above cases were caused by a thrombus of the artery of the mesentery. In the first, caused by arteriosclerosis from alcoholism, in the second, by syphilis and the third by traumatism.—(*Annals of Surgery*, Sept., 1904, V. KENERSON.)

The Surgical Formation of New Collateral Circulation for the Blood of the Portal Vein (Omentopexy).—S. Talma, who first suggested omentopexy for the cure of ascites in cirrhosis of the liver, comes to the following conclusions. These are the more valuable because of his large experience, gained by observation on the living and at autopsy:

1. Omentopexy often removes the ascites, one of the most troublesome symptoms of cirrhosis of the liver. 2. Talma's operation has no direct influence on the degenerative process of the liver-cells, but may benefit the liver cells by averting the blood from the liver. Cases have been observed where jaundice disappeared after omentopexy. 3. Omentopexy will sometimes cure or prevent hematemesis and the formation of varicose veins in the esophagus, symptoms so frequently met with in cirrhosis of the liver. The newly formed collateral circulation will prevent the over filling of the gastric and esophageal veins. 4. It is improbable that in complete thrombosis of the portal vein omentopexy can procure a sufficient collateral circulation to sustain life. Though Umber has observed a case of a man who died, 47 years old, the autopsy showed complete obliteration of portal and renal veins. The obliteration was of old standing, perhaps even congenital. Sufficient collateral circulation had formed through adhesions between liver, spleen, intestines and abdominal wall.—(*Berliner Klinische Wochenschrift*, 1904, No. 34, S. TALMA.)

Removal of Gout-deposits and of the Synovial Membrane from the Goutic First Metatarsal-phalangeal Joint.—Riedel incised the joint in two cases of goutic inflammation of the first metatarsal phalangeal joint and removed the diseased synovial membrane together with the goutic deposits. In his first case Riedel operated with the idea of finding pus. Being mistaken in this he excised the capsule and cured the patient immediately, from a very painful arthritis. The good result was observed to continue for 14 years. The second operation was also successful. Riedel recommends the operation for only such cases where the goutic affection is isolated in the first metatarsal-phalangeal joint. (*Deutsche Medicinische Wochenschrift*, 1904, No. 35, RIEDEL.)

GYNECOLOGY AND OBSTETRICS.

Under the Charge of

B. R. SCHENCK.

Nourishing by the Subcutaneous Injection of Oils.—Subcutaneous injection of oils and fats has been considerably lauded during the past year, as a partial substitute for stomach and rectal alimentation for emaciated patients, especially before and after abdominal operations. They have been particularly recommended in certain gynecologic cases.

In this connection, recent experiments of Winternitz, in which oils were subcutaneously injected, are of interest. Although fat so administered is absorbed and used in metabolism, all being completely taken up in the course of time, the quantity absorbed within five days after 500 grams are injected, does not exceed 2 grams to 3 grams per day; indeed during the first week, the daily amount is less. Consequently months may elapse before the desired result is obtained and Winternitz concludes that the method is of no practical value. (*Zeit. f. klin. med.* Bd. L. s. 80.)

The Immediate Repair of the Perineum. Placing of the Sutures Before the Tear Occurs.—Lapthorn Smith emphasizes the importance of closing small tears of the vagina and perineum, in order to lessen the chance of infection taking place through an open wound, small though it be. He advocates the closing of vaginal tears with a running fine chromicized catgut suture. The field of operation is to be kept clean by having constant irrigation going on, or the uterus can be temporarily packed with gauze to keep the blood from trickling over the field of operation.

For 15 years, the author has made a practice of putting a stitch or two in every case in which even half an inch of the fourchet is torn and he feels certain that these patients have made better convalescences than those on whom it has not been done.

In order to obviate the difficulty of securing the divided ends of the levator ani muscle and pelvic fascia, Smith advocates the placing of the sutures before the tear takes place. His technic is as follows:

Just before the child's head comes down upon the perineum, the patient is anesthetized and brought across the bed with the feet held by a twisted sheet or leg holder. The perineum is sterilized and then with the large curved needle firmly held in the right hand, and with the thumb of the left in the anus

and the index finger in the vagina, the needle is entered at the base of the lesser lip on the patient's left and passed rapidly under the vagina and about $2\frac{1}{2}$ inches above the fourchet, coming out at the corresponding point on the woman's right side. A silkworm gut suture is threaded into the needle, drawn through and the ends caught with an hemostat. A second one is passed in the same way an inch lower down, but taking in the muscles of the perineum. If on account of the rigidity of the perineum, a bad tear is suspected, a third stitch, taking in the ends of the sphincter ani, is placed. Delivery can now go on naturally or artificially, but as soon as the placenta has been delivered, the perineum is inspected under a good light and a stream of water, all clots being rubbed off with the finger; the stitches are tied from above downward, when we will find that there is absolute accurate coaptation of the separated parts.

If by keeping the pains under control and the head well toward the symphysis there has, happily, been no laceration, no harm is done by having introduced the sutures and they are drawn out. If there is a laceration, time and trouble have been saved by having them already in place and the torn surfaces are firmly and properly brought together.

The placing of the perineal sutures before the tear takes place is an instance in which "an ounce of prevention is worth a pound of cure." (*Amer. Med.* July 30, 1904.)

Intraperitoneal Shortening of the Round Ligaments.—Menge, of Leipsig, treats retroposition of the uterus by taking up a loop in each round ligament, suturing them together and fastening them to the anterior surface of the uterus. This he has recently brought out as a new operation. (*Cent. f. Gyn.* XXVIII No. 21.)

Kleinwächter, in a scathing article in No. 29 of the same journal, shows that this operation was advocated and fully described 14 years ago, by Palmer Dudley, and says that "a specialist and particularly a university professor should be thoroughly conversant with the literature and history of his specialty. Prof. Menge is proof of the fact that there are exceptions to this rule." It is refreshing to find American workers championed in the German journals.

PHARMACOLOGY AND THERAPEUTICS

Under the Charge of

W. J. WILSON, JR.

The Medical Treatment of Deep-Seated Hemorrhage—It may be stated as not open to question that hemorrhage, whether arterial or capillary, depends essentially upon the existence of a certain blood pressure in the bleeding area and that the indication for medical treatment consists in reducing this localized blood pressure. Such we might hope to achieve: (1) by promoting vaso-constriction of the arterioles supplying the bleeding area; or (2) by promoting fall of blood pressure through widespread vaso dilation in other areas. It is to the first of these methods that attention is commonly directed. In cases where the bleeding area is accessible to local treatment—for example, in certain cases of hæmatemesis—the promotion of localized vaso-constriction—as by ice, adrenalin, etc., may be very successful. But frequently, the area of bleeding is not accessible to local treatment. Then in order to promote localized vaso-constriction we are forced to fall back upon remedies which promote vaso-constriction generally. Until lately ergot was the remedy usually used, but now that far more powerful vaso-constriction adrenalin is coming into general use. As regards ergot, though, I have used it conscientiously for many years, in cases of inoperable deep-seated hemorrhage, yet I could never assure myself that it was of real advantage except, of course, in uterine hemorrhage. But the general, as well as the local, action of adrenalin is undoubtedly capable of checking hemorrhage in some cases. There are, however, at least two serious objections to all remedies which promote general vaso-constriction effectively. On the one hand, unless the general vaso-constriction is adequately compensated by cardiac inhibition, the general blood pressure, including the blood pressure of the bleeding area, will rise rapidly; thus the bleeding might continue or even increase. On the other hand, if the general vaso-constriction is adequately compensated by cardiac inhibition serious symptoms arising from anæmia of the brain

are liable to arise. This danger, I think, is not fully appreciated, although it is known that in epilepsy the administration of suprarenal extract increases the number of attacks.

These considerations led to the employment of the second method by promoting the fall of the general blood pressure through widespread vaso-dilation, and the administration of amyl nitrite was the obvious means of fulfilling this indication. This method, it was argued, would be applicable not only to cases of hemorrhage from some part of the general circulation, but also to pulmonary hemorrhages. For as Schäfer points out, the blood pressure in the pulmonary circulation may be reduced passively by a fall of pressure in the the aortic outflow. (*Lancet*, Aug. 20, 1904. HARE.)

Treatment of Cancer—With our present ignorance of the cause and cure of cancer, the first step taken must be in the direction of prophylaxis; when a woman reaches the age of forty, she must be placed in the best possible condition for the resistance to this disease, by local treatment, in case there should be any local inflammation, lacerations, or ulcerations, and secondly, her general health must be looked after, especially as regards diet, exercise, and life in the open air. Should cancer make its appearance, an immediate operation is imperative. If the case when first seen is too far advanced to make operation advisable, or should there be a recurrence of the disease, the X-rays and violet rays offer the greatest hope.

In view of the facts of the great and increasing prevalence of cancer and the inadequacy of the present surgical resources to cope with it, it is to the renewed clinical study of this disease, which has almost been lost sight of, and to experimental serum therapy that our attention must now be directed to seek the cure for this most terrible and fatal of the diseases of the present day. (*Medical Record*, Oct. 1, 1904, A. M. GALBRAITH.)

DERMATOLOGY AND SYPHILIS.

Under the Charge of

A. B. BIDDLE.

Etiology and Nature of the Toxic Erythema.—The writer suggests the following classification of the poisons which give rise to the group of diseases under consideration: 1. Bacterial and protozoal toxins. 2. Ptomaines. 3. Leucomains and other metabolic poisons. 4. Drugs.

The presence of specific toxic substances in the blood in the infectious diseases is well recognized. At least some of the eruptions in scarlet fever, measles, rubella, smallpox, influenza, pneumonia, malaria, gonorrhœa, rheumatic fever, cholera, typhoid fever, etc., are due to *bacterial and protozoal toxins*.

Some of these eruptions are known to be eliminative and to contain the causative agent of the disease. The *causa causans* of smallpox is resident in the variolous pocks; but the prodromal morbilliform, scarlatiform and purpuric rashes are probably produced by the toxins.

From the resemblance of the scarlet fever exanthem and the exanthem of measles to certain drug and serum rashes it would seem probable that the eruption of scarlatina and measles is produced by a toxin and not by a living organism. Morbilliform rashes have been noted in pneumonia; the rashes observed in influenza are usually rubeoloid in character. Various rashes, particularly of the scarlatinoid variety, not infrequently accompany streptococcus infection. Circumscribed pus collections often give rise to recurrent toxic eruptions.

Ptomaines or bacterial alkaloids are basic, organic compounds produced by the action of bacteria on nitrogenous matter. This class of poisons, especially the various food poisonings, plays an important rôle in the production of the different dermatoses of the erythema family.

Mussel poisoning commonly produces a more or less generalized urticarial rash, accompanied by the most intense itching, due to a ptomain designated mytilotoxin.

Fish poisoning may result from ingestion of (1) certain species of fish which are always poisonous; (2) fish which are poisonous during the spawning season; (3) fish affected with epidemic bacterial diseases which render them toxic to man; and (4) fish which are poisonous by reason of having undergone putrefactive changes.

Meat poisonings are usually due to the elabora-

tion of certain poisons resulting from putrefactive changes. Sausage poisoning, known as botulismus, gives rise not infrequently to attacks of urticaria. Highly poisonous ptomaines have been found in *milk* (the tyrotoxicon) and in *cheese*, producing urticaria and an exudative erythema. The field of the *vegetable food poisoning* is comparatively unexplored, although the eating of diseased maize and of grains infected with parasitic fungi is known to give rise to severe cutaneous eruptions.

Poisons giving rise to various eruptions may be (1) introduced with foods or may (2) develop in the alimentary canal as the result of the action of intestinal bacteria upon the ingested material. Many eruptions of the erythema family have been attributed to what has been termed *intestinal auto-infection* or *auto-intoxication*.

A *leucomain* is a basic organic compound resulting from metabolic changes in the animal economy, a vegetable substance, closely resembling the vegetable alkaloid. Some of the leucomains are extremely poisonous. In this group are included the large number of retention poisons about which little is known: in diseases of such eliminative organs as the kidneys, intestines and skin, certain products are retained which nature doubtless intended should be thrown off.

That various *drugs* may act as poisons to certain individuals and evoke in them diverse eruption belonging chiefly to the erythema group is well known. The same medicament may give rise to varied eruptions in different persons or even at different times in the same individual.

The rashes appearing after the administration of *diphtheritic antitoxin* are due not to the presence of an antitoxin but to the introduction into the system of an alien or heterogenous blood serum. The injection of plain horse serum into an individual likewise gives rise to these rashes. The exact constituents of the serum which produce the phenomena are not known, but they are doubtless albuminous substances which act as mild poisons; manifestly a non-bacterial clinical substance formed within the animal body. The muscular and joint symptoms due to serum injection are in all probability due to the action of the various toxins and poisons which have a selective influence on these serous membranes. (*Journal of Cutaneous Diseases*, October, 1904, JAY F. SCHAMBERG, M.D.)

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Original Articles

THE VALUE OF THE TUBERCULIN TEST.*

IRWIN H. NEFF,
Pontiac.

The value of the tuberculin test can only be determined by comparison of results. Unfortunately such comparisons have not been convincing, due in great part to the differences in technique of the respective investigators. The inconsistencies which are often found when statistics are compiled have reflected upon the validity of the test, and have prevented its more general adoption.

Another factor, which has acted as a deterrent, is the mistrust which some physicians have of tuberculin. When tuberculin was first introduced as a diagnostic agent, it was claimed by some eminent diagnosticians that its use caused a dissemination of the disease. This statement had a material basis, as it had been experimentally proven that the reaction following the use of tuberculin was due to the direct influence of the tuberculin on the tubercle bacillus,—a theory which

Mamorek (*London Lancet*, April 26, 1904, page 855) has recently further elaborated.

Briefly expressed it is as follows: Tuberculin is only a "reactive," which causes the tubercle bacilli to secrete another and hitherto unknown toxin. This toxin, he believes, causes the fever, which produces the reaction.

Whatever opinion we may have of the effect upon a tubercular subject of the continued use of tuberculin, we must, in the face of the evidence which we have, disabuse our mind of the idea that tuberculin, when used as a diagnostic measure, is detrimental to the human organism. Pottenger (*Therapeutic Gazette*, 1903) has recently collected statistics on tuberculin from different sources, including over 3,500 cases, where tuberculin was used as a diagnostic agent, without ill effects. There is no evidence to show that any disease, excepting tuberculosis can react to tuberculin, notwithstanding assertions which have been made to the contrary. Therefore we can say, with certainty, that a "reaction to tuberculin"

*Read before the Section on General Medicine at the Annual meeting of the Michigan State Medical Society at Grand Rapids, May 27, 1904, and approved for publication by the Committee on Publication of the Council.

means tuberculosis. Unfortunately the degree of reaction is not indicative of the degree of infection, as patients with a localized tubercular lesion have shown a marked general reaction; while cases with a widespread tubercular process, amenable to the test may react only mildly.

To appreciate the delicacy of this diagnostic measure it would be necessary to have autopsical findings immediately succeeding the test. Although this is not practicable as regards man, it is possible to obtain some facts from cattle which have been slaughtered after reaction to tuberculin. It has been the fortune of the writer to assist in such postmortems—postmortems which have been made a few hours after the animal's reaction to tuberculin. Although the number (30) has perhaps been too small for definite conclusions, the cases have been studied thoroughly as regards reaction and postmor-

tem findings. All attempts to establish the exact relation of the degree of infection to the reaction obtained were unavailing. Several cases, showing tuberculosis, involving only one gland, gave intense reaction; while others with extensive, disseminated tuberculosis reacted only moderately. These conditions were also found reversed. It seems to me that veterinarians should investigate this question more extensively, as it is only in this way that we can obtain any information regarding this important point.

The tuberculin test in cattle is considered conclusive, and justly so, if we stop to consider that in 90 per cent. of the animals reacting we find tuberculosis. The value of the test is enhanced when we consider that in the 10 per cent. of failures are included errors made by the investigators, such as failure to consider the condition of the animal before the injection

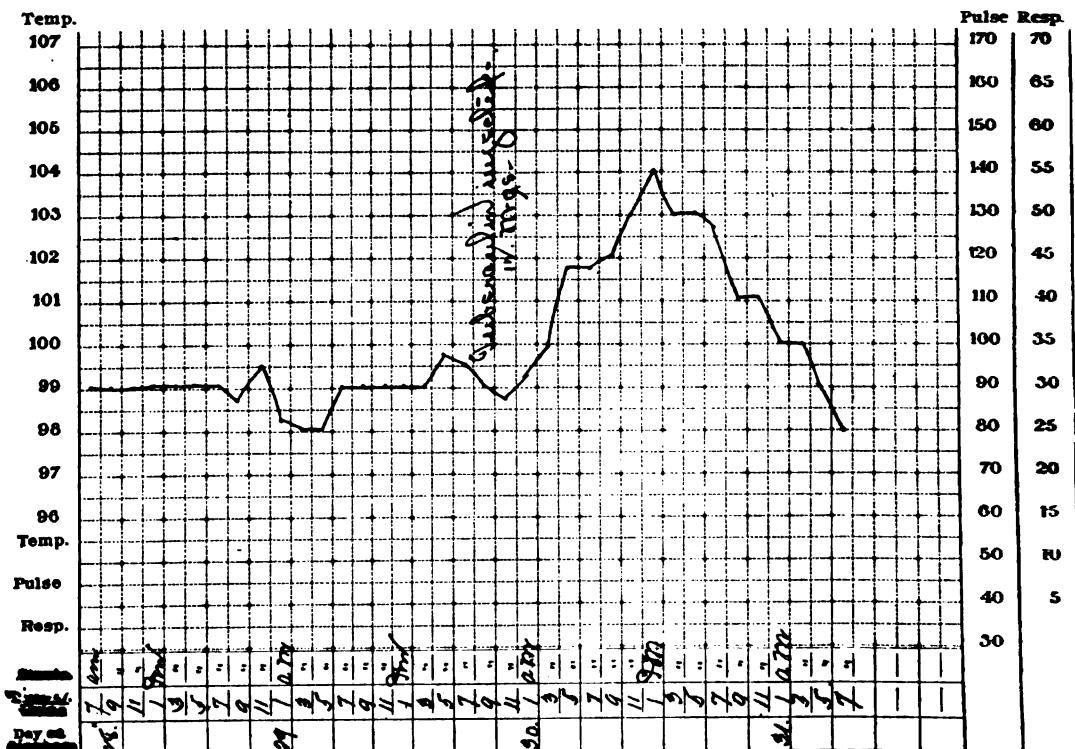
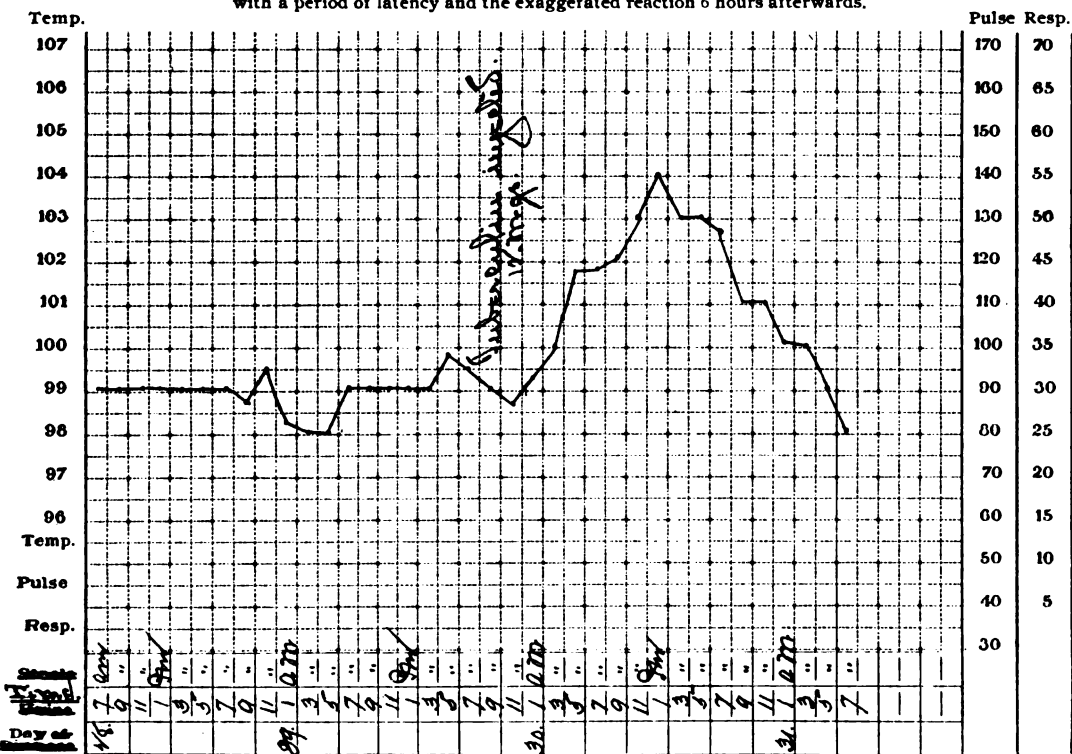
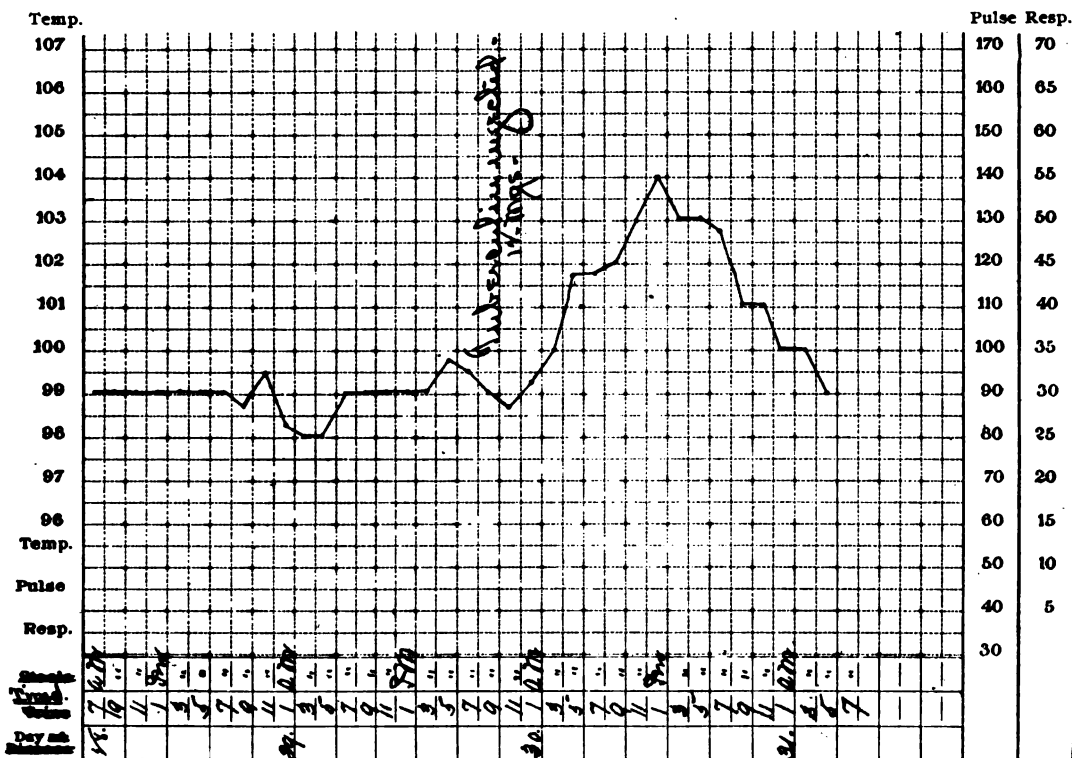


Chart showing exaggerated reaction in an old case of tuberculosis, 12 hours after an initial injection of 12 mg., with a period of latency and the exaggerated reaction 6 hours afterwards.



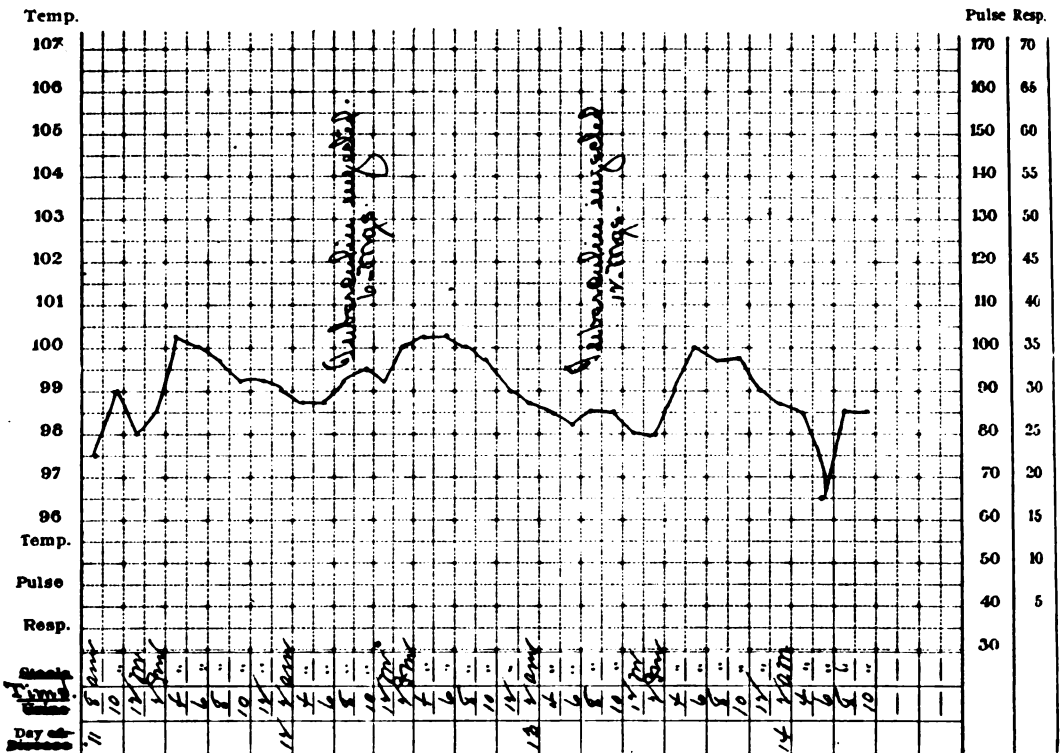


Chart showing a possible reaction obscured by preliminary temperatures, in a well defined case of tuberculosis.

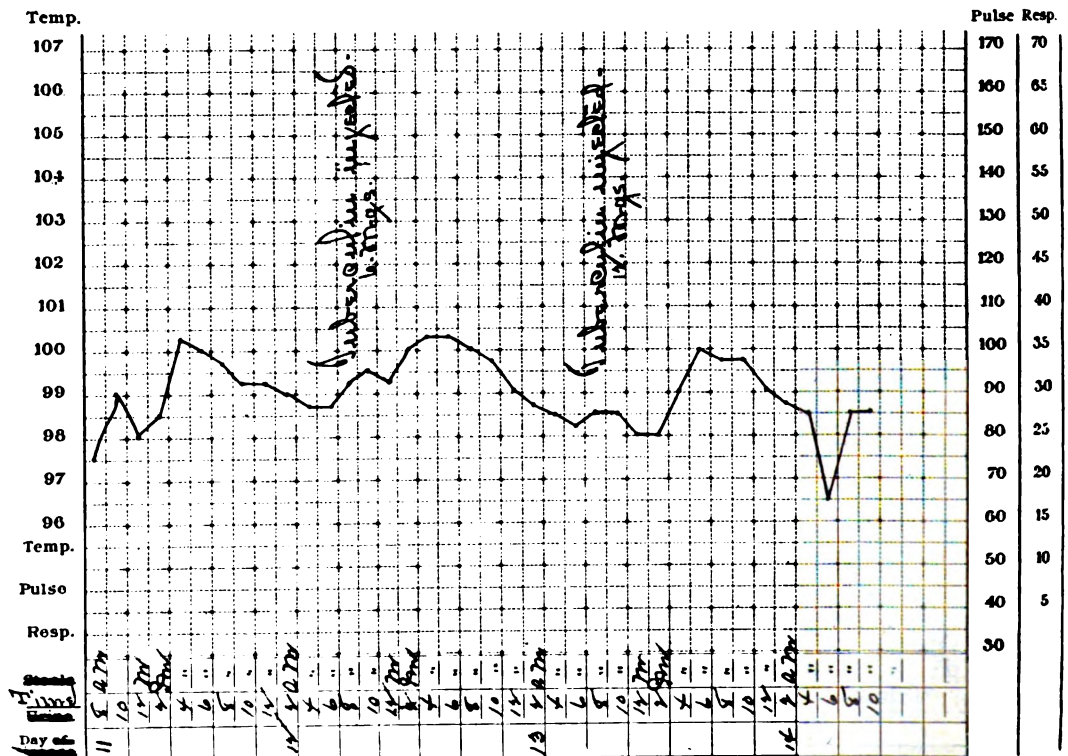


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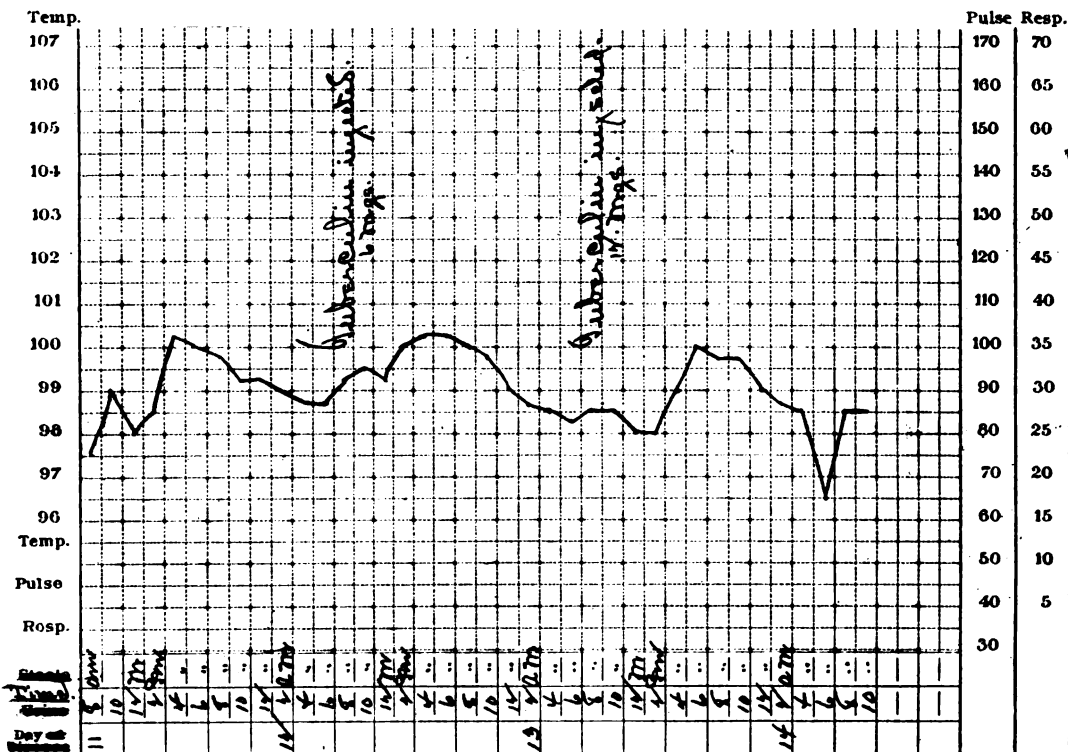


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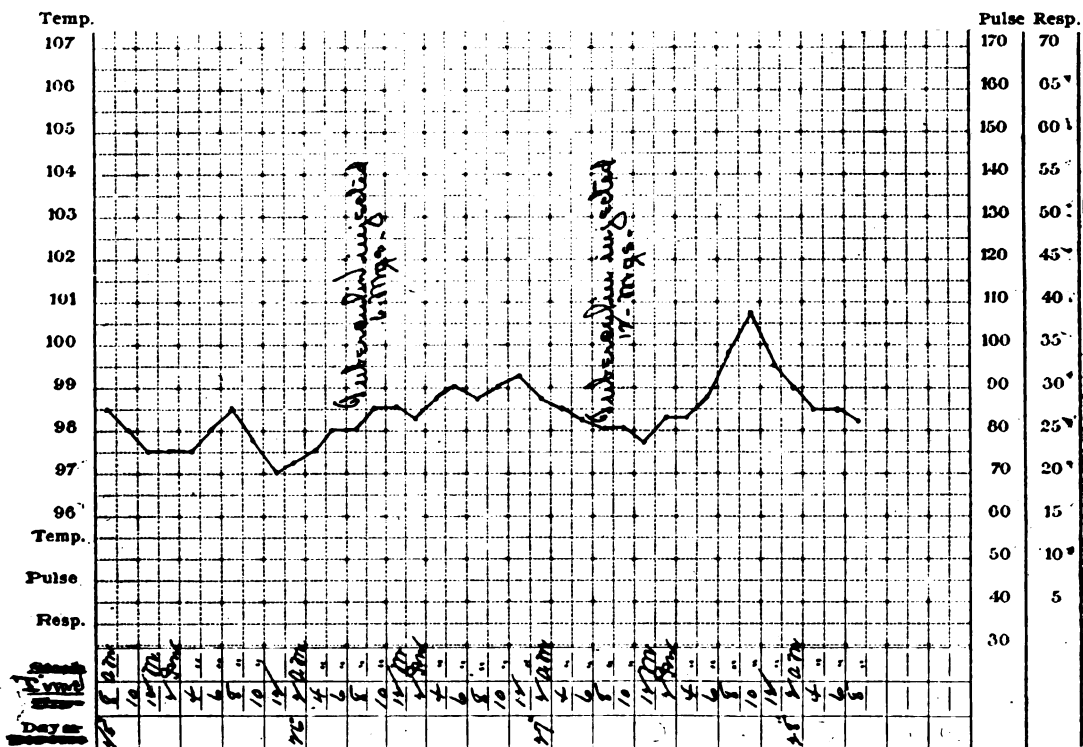


Chart showing characteristic reaction 12 hours after second injection.

is made, and mistakes made in placing the proper value on the individual temperatures. Correspondence and interviews with those using the tuberculin test in cattle have confirmed these views.

The value of the tuberculin test in man is thought to be considerable. A conservative estimate of its failure when used in the diagnosis of human tuberculosis is 5 per cent. This percentage, however, would probably be materially reduced if the errors in conducting the test were eliminated. It should again be borne in mind that the test, although a simple one, is notwithstanding a scientific one, and like all diagnostic tests is likely to suffer in the hands of a careless manipulator.

The following are the facts which we have regarding the use of tuberculin as a diagnostic agent: (1) It is an invaluable aid to diagnosis in the early stage of tuberculosis. (2) A reaction to tuberculin is positive proof that the case is one of tuberculosis. (3) There is no positive, clinical proof that any disease, excepting tuberculosis can react to tuberculin. (4) A reaction to tuberculin is not significant of the degree of infection.

The debatable points are as follows: (1) The time necessary for preliminary temperature—namely, the temperatures taken before the injection. (2) The dosage when used for diagnostic purposes. (3) The reaction. (4) The possibility of a reaction in a case apparently cured.

It is to these questions which I have attempted to answer that your attention is asked.

(1) Tuberculosis is an infectious disease, and like all infectious diseases, has a temperature involvement. Fever is only absent when the disease is in its early incipency; or when the vitality of the pa-

tient is such as to prevent a reaction of the organism.

When taking temperatures preparatory to the tuberculin test it is of extreme importance that we also consider the daily fluctuations of temperature which are commonly found in adults. It is essential that we bear in mind the influence of inter-current disease and conditions on the bodily temperature. I would emphasize these requisites, as a failure to consider these conditions might lead to serious error. In order to detect these variations in temperature the temperature of every individual to be subjected to the test should be taken bi-hourly for a period of at least 24 hours. The necessity of having accurate preliminary temperatures will be better appreciated when we consider the import of the reaction.

(2) When tuberculin was first used for diagnostic purposes, extremely small doses were employed and the employment of as much as two mgs. for a dose was strenuously opposed by its most sanguine promoters. We now know more of tuberculin and recognize that the effects attributed to the larger dose were not founded on authentic, clinical experience. The continued use of tuberculin has convinced us that small doses often produce no reaction; but tend to establish a tolerance against larger doses. An initial dose of six mgs. is recommended, which can be followed by a second dose of twelve mgs. if necessary, 24 hours after the primary injection. The dosage advised is the one which I have employed during the past few years with satisfactory results.

(3) The general reaction to tuberculin, as is well known, consists of a fever, with ordinary febrile symptoms, appearing at

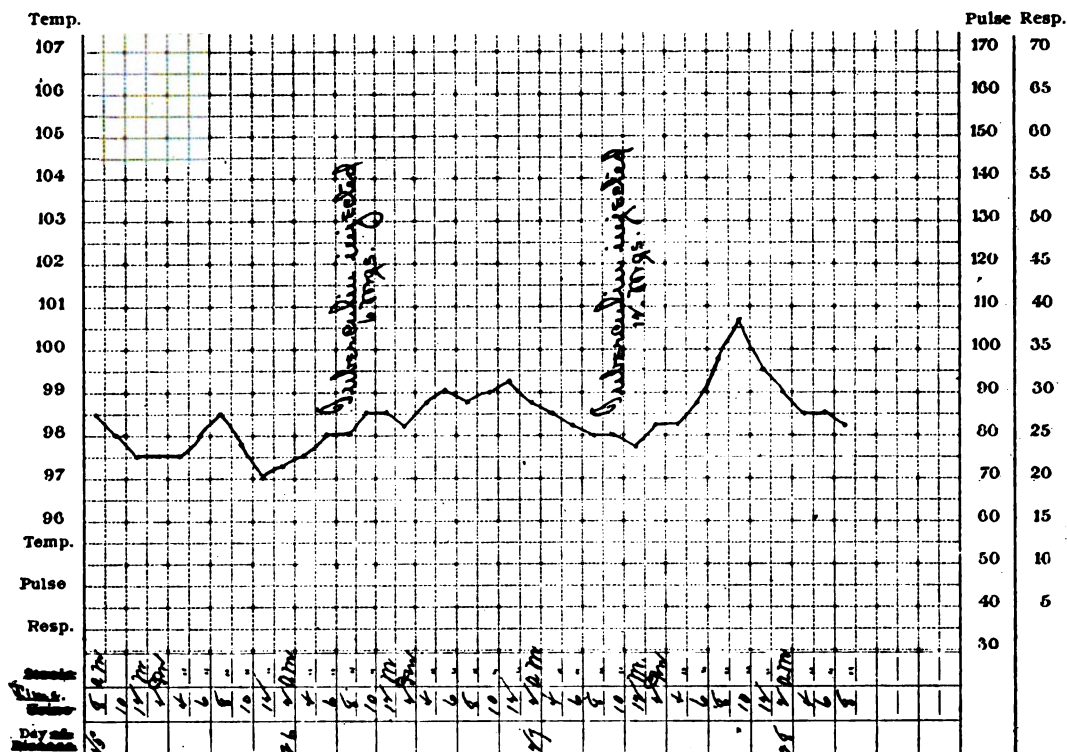


Chart showing characteristic reaction 12 hours after second injection.

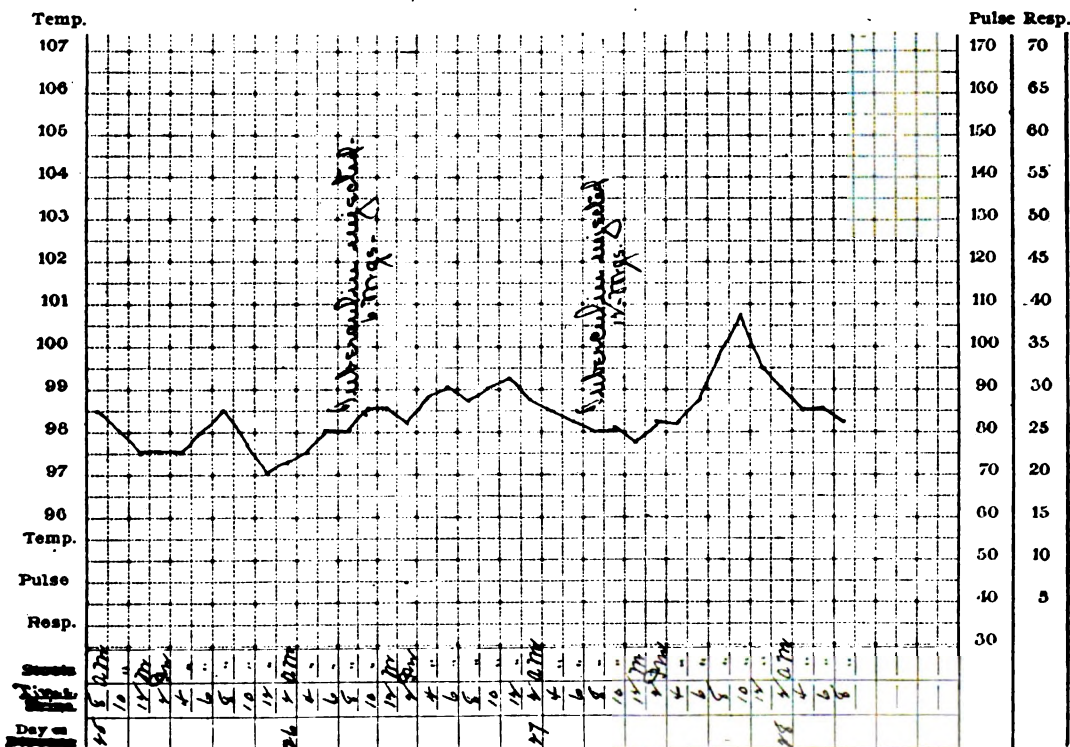


Chart showing characteristic reaction 12 hours after second injection.

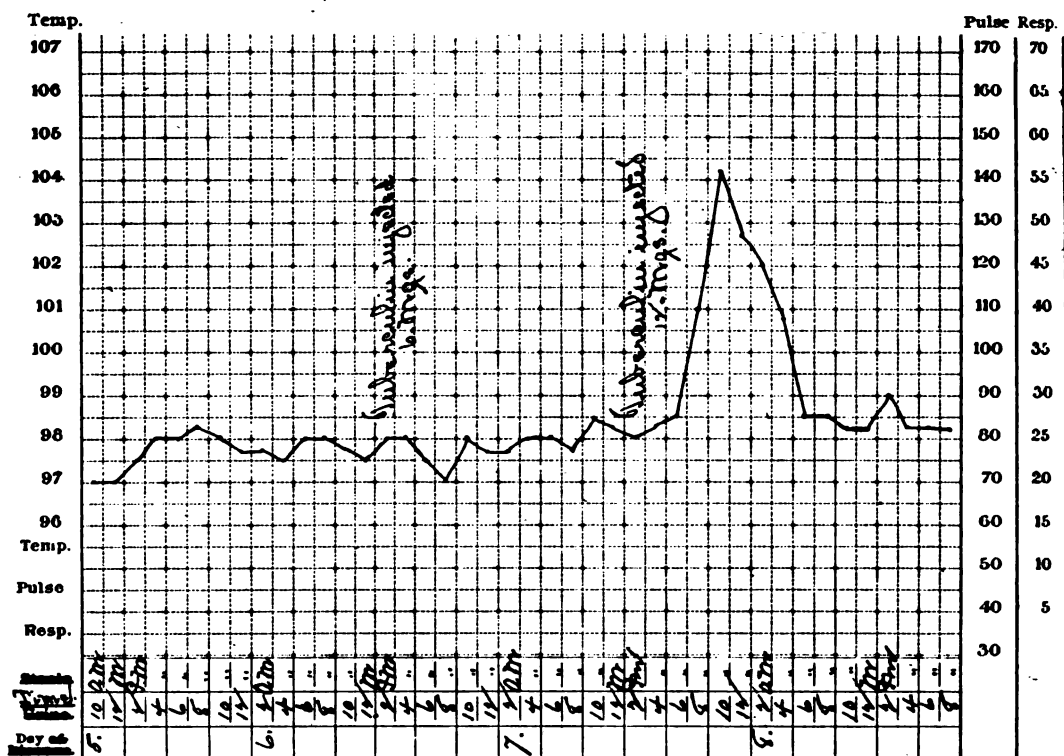


Chart showing exaggerated reaction 12 hours after second injection of tuberculin.

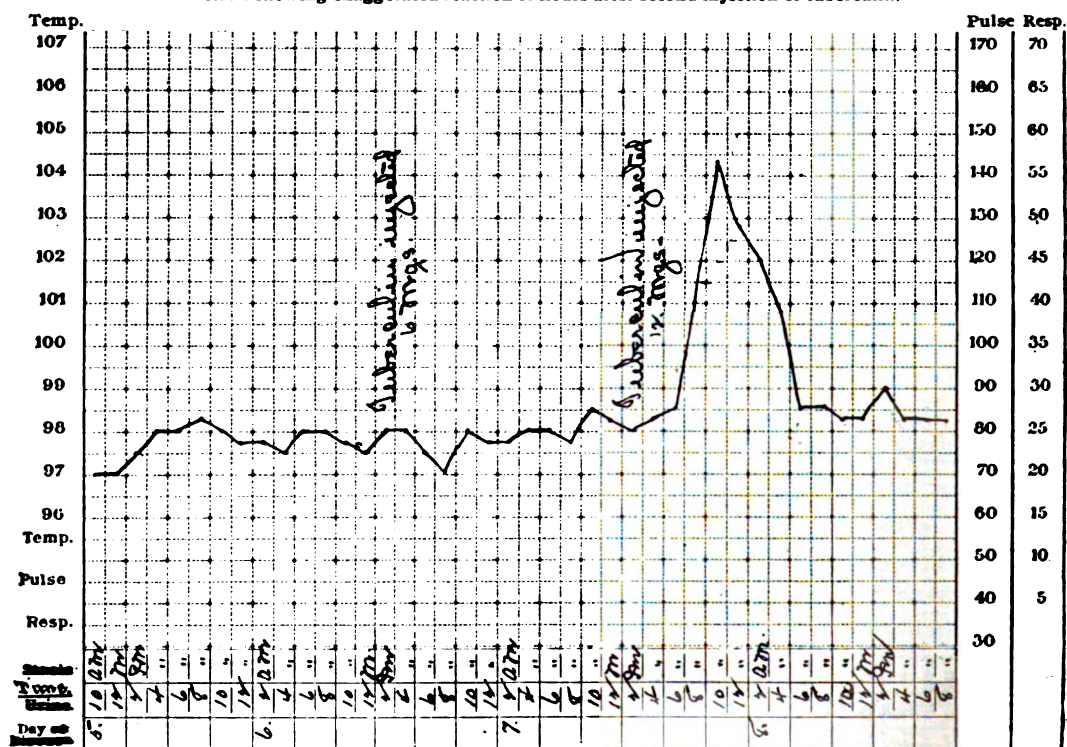


Chart showing exaggerated reaction 12 hours after second injection of tuberculin.

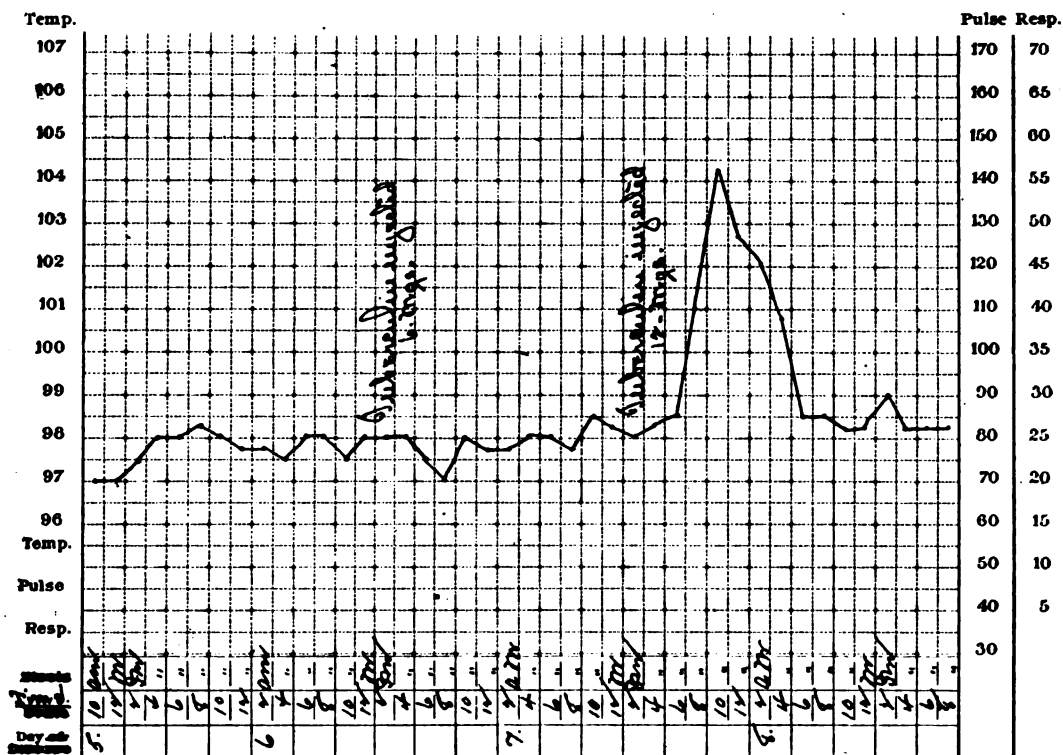


Chart showing exaggerated reaction 12 hours after second injection of tuberculin.

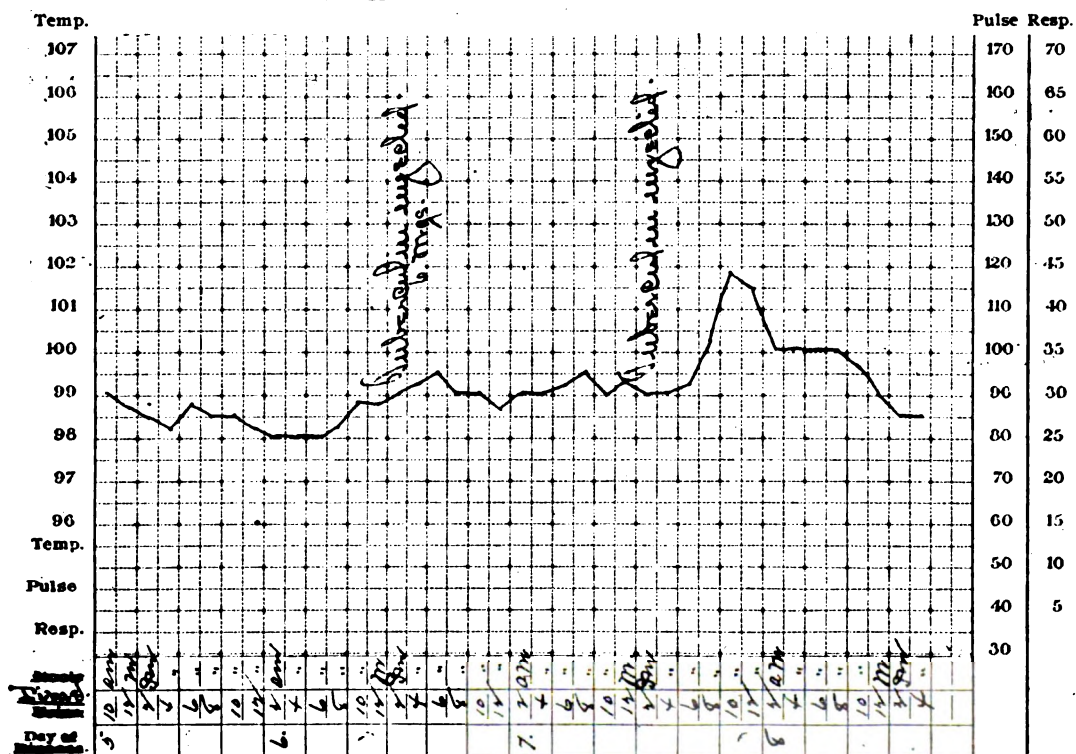


Chart showing maximum and characteristic reaction 14 hours after second injection of 12 mg.

a variable time after the injection. The uncertainty of some of the general symptoms of the reaction, such as increased pulse rate and the subjective sensations of the patient, make it imperative that we place our dependence on the induced fever. In the classical reaction we have a rise in temperature of four degrees or more. As a matter of fact, such an exaggerated reaction is seen in comparatively few cases, and we have been compelled to establish a minimum rise, which to us would signify a characteristic febrile reaction. We have from our experience fixed the minimum rise of temperature at two degrees over the highest preliminary temperature. Fever less marked may be suggestive, but not conclusive.

(4) To the question whether a healed tubercular lesion can react to tuberculin, we can only give a reserved opinion. Just what are the anatomical conditions in a so-called "recovered" case we can only conjecture. All opinions must necessarily be modified. Personally, I am rather skeptical of recovery in many of these cases. Although perhaps inconsistent, I would speak for more conservatism when the percentage of cures is estimated. The continued absence of bacilli from sputum, absence of cough, fever, emaciation, and the negative results of physical examinations have been shown to be the objective signs of recovery.

We have proven in a series of cases, where marked improvement and apparent cure have resulted from dietetic-hygienic treatment, that these cases continue to react to tuberculin. A further study of these patients has convinced us that the recoveries were apparent and not real. Our experience as shown by the tuberculin test has proven to us that these cases

are not cured; but that the disease should be considered as temporarily arrested or in a latent condition.

A REVIEW OF TECHNIQUE.

The patient to be subjected to the test should have temperatures taken bi-hourly for a period of at least 24 hours preceding an injection. These temperature takings should be supplemented by other temperatures which have been taken before the bi-hourly temperatures had been begun. If the chart of the preliminary temperatures is a favorable one (maximum preliminary temperature not exceeding 99.5 degrees), the preliminary injection of six mgs. may be given. After 24 hours, if there is no reaction—namely, a rise of temperature of two degrees over the highest preliminary temperature—a second injection of 12 mgs. may be given. If no reaction is then secured, there should be an interval of at least two weeks before the test is repeated. It seems unnecessary to say that other means of diagnosis should not be neglected. Sputum examinations, weight observations, and physical examinations should be systematically and conscientiously made.

The simplicity of the test has led to its quite general adoption; but as mentioned before, its limitations have not always been recognized, and this, with the failure of the physician to use proper technique, has to some extent placed the test in disrepute. It is entirely consistent with what we know of the tuberculin test for the physician in general practice to use tuberculin for diagnostic purposes; but he must bear in mind that, though the test is a simple one, it is a delicate one, and its essentials must be considered and all possible errors eliminated. If these precautions are used by the physician, the em-

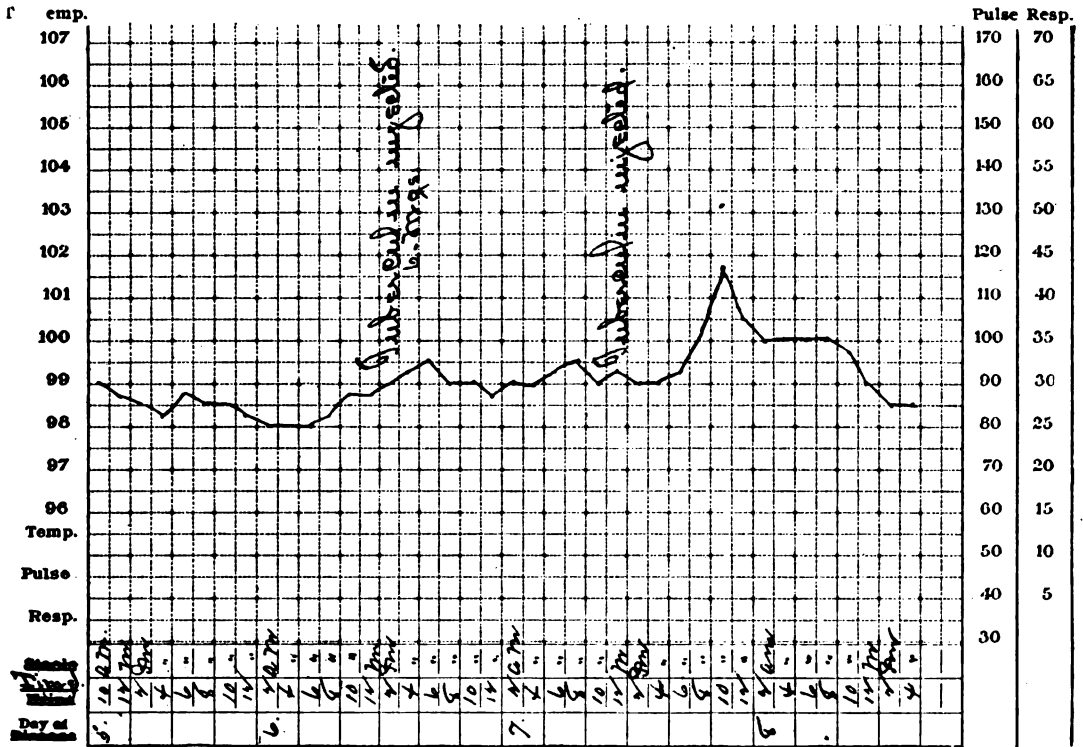


Chart showing maximum and characteristic reaction 14 hours after second injection of 12 mg.

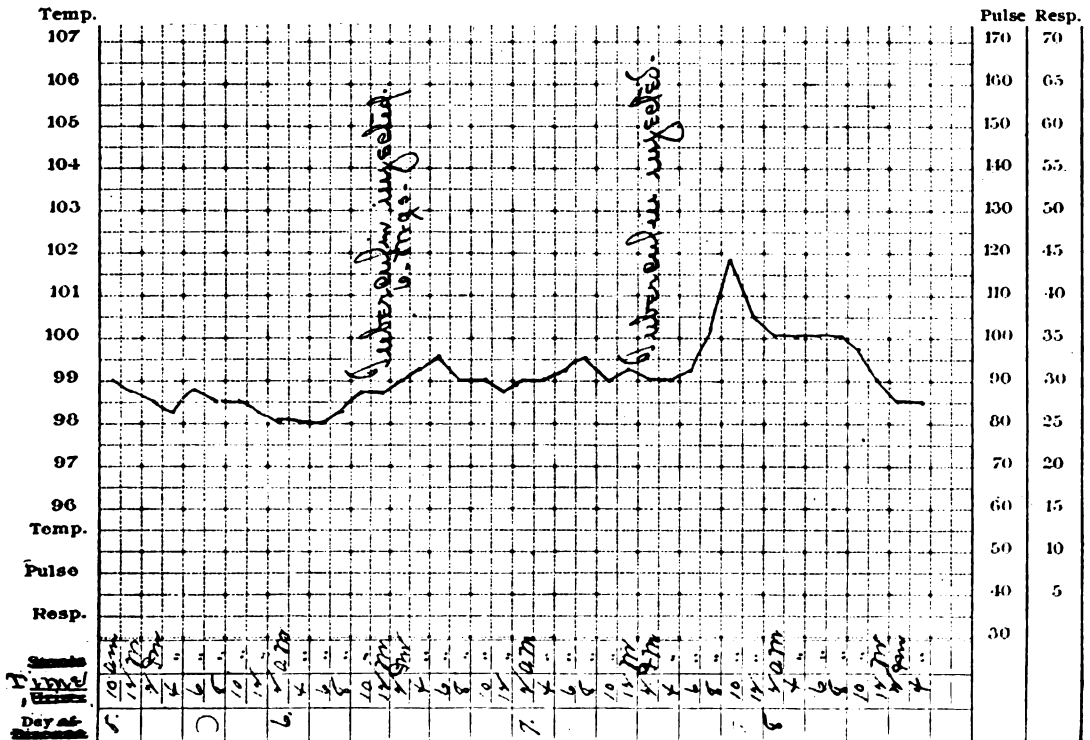


Chart showing maximum and characteristic reaction 14 hours after second injection of 12 mg.

ployment by him of the tuberculin test is practicable and to be commended.

The following conclusions are founded on 130 men who have been injected with tuberculin: Eighty of these patients were injected for suspected tuberculosis, and the remaining 50 were used as control cases. (It is interesting to note that not one of these control cases gave a reaction.) Of the 80 patients injected, who were suspected of having tuberculosis, a reaction was secured in 26, or 32.5 per cent. In 20 of these cases physical and bacteriological examinations were possible at that time, or a short time subsequently, and were confirmatory of the disease. Fourteen of these cases are still under treatment, 9 have died, and 2 have been discharged. One of the discharged patients later succumbed to tuberculosis, and the other is still living, and unmistakably tubercular.

Of the 54 cases not reacting where tuberculosis was suspected, 3 were cases of well advanced pulmonary tuberculosis, as was proven on postmortem. We have every reason to suppose that in these cases the reaction was prevented by the pronounced degree of tubercular invasion. This theory is supported by the fact that before the injection was made the fever was practically absent, although physical examination gave evidence of widespread tubercular disease.

The remaining 51 cases of the series not reacting have been under observation for periods extending from six months to seven years, and repeated examinations have failed to show any symptoms which would indicate tubercular trouble. It should be stated that each of these cases has received individual study, and has

been subjected to many tuberculin tests at stated intervals.

SUMMARY.

(1) A reaction to tuberculin is positive proof of tuberculosis.

(2) The failure to react may be of negative value if the tuberculin test is used when the disease is far advanced.

(3) When the errors of the diagnosticians using the tuberculin are eliminated, the percentage of failures must be exceedingly small.

(4) Owing to the variability of all the general and local symptoms of a "reaction," reliance must be placed entirely on the induced fever.

(5) Cases apparently "recovered" often react to tuberculin, thus proving that there is tuberculosis, and that the disease is present in a latent form.

(6) The average time for the reaction is 12 hours. The reaction, however, may be delayed, some cases showing the characteristic rise after 20 hours.

(7) Large initial doses for injection should be used, as small doses tend to establish a tolerance, thus preventing a reaction.

(8) Extreme care is essential when reaction to tuberculin is suspected. The preliminary temperature should be carefully considered and all errors eliminated.

(9) Advanced cases of tuberculosis do not, as a rule, react. If a reaction is secured, it is generally obscured by preliminary temperature oscillations.

(10) The use of the tuberculin test in general practice is to be commended, if the physicians remember the extreme delicacy of the test, its limitations, and the necessity of the employment of a thorough and unvarying technique.

PROPHYLAXIS AND TREATMENT OF THE COMMON COMMUNICABLE SKIN DISEASES.*

H. R. VARNEY,
Detroit.

The object of this paper is to bring about, if possible, a more perfect understanding of the subject matter among the general profession in our section of the country.

The diseases to be considered will be only those contagious affections that do not, as a rule, incapacitate the patients by constitutional disturbances. They are therefore attending school, or at work, transmitting the diseases to all who are susceptible to them.

The group of skin diseases common to us all are impetigo contagiosa, scabies, pediculosis, and ring-worm. These are all caused by parasites, either animal or vegetable, which grow in or upon the skin, and are transmitted either directly or indirectly from one person to another. Much depends upon the susceptibility of the person exposed.

Should children afflicted with any of these diseases be allowed to attend school, office, or factory?

For years past, in the public schools of Detroit, there has been an unwritten rule that teachers could send home a child who manifested any symptoms of skin affections, or uncleanness. A note explaining the temporary suspension was sent to the mother. She, often ignorant of the danger of contagion, does not consult a physician and after she has done what she can to improve the condition,

the child is sent back to school. The danger of contagion, however, is not removed. This child may infect a large percentage of the children in attendance at that school, often causing a loss of days or even weeks of the school year to the delicate child who may suffer from complications of these diseases.

Certainly in exercising the best prophylactic measures, isolation of the patient is the first to be employed.

Since February, 1902, the Detroit Board of Health, upon the suggestions of its Health Officer, appointed a number of physicians as medical inspectors in the different schools. It is their duty to aid in preventing the spread of all contagious diseases, by careful daily inspection of the children in attendance. Statistics prove how beneficial have been the results of this system. For the school year, ending 1903, the number of pupils examined was 17,181; number excluded from school, 1,347. Of these, 198 were cases of pediculosis; 59 impetigo; scabies and ring-worm were classified with other diseases so that the exact number cannot be obtained. With that number of children suffering from pediculosis, in daily attendance at school and in over-crowded rooms, there is great danger of contagion. While with the average child, very little inconvenience is experienced, yet there is always great humiliation; and the delicate child who is most susceptible to these diseases, may lose days or weeks of school from the loathsome disease and its dermatitises with glandular enlargements.

*Read before the Section on General Medicine at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 27, 1904, and approved for publication by the Committee on Publication of the Council.

Does this not offer argument convincing enough to warrant the establishment of such a system of inspection in every graded school in our state?

How many physicians, general or specialists, after making a diagnosis of scabies, ring-worm, impetigo, or pediculosis (for these diseases come to the notice of us all) give instructions to either patient or parent in the prophylactic measures to be taken until the child recovers? The child should remain away from school, use his own towel, sleep alone, and all his clothing, bedding, etc., be disinfected.

The exclusion from school of children afflicted with these diseases is usually for a short time only. It meets with the approval of the parents who are only too glad to shield their children from the disgrace usually attendant on parasitic diseases, and are glad to carry out promptly, treatment prescribed.

Dr. Kiefer, Health Officer of Detroit, told me that after one of these medical inspectors had been withdrawn from a school, not only the principal and teachers of the school, but parents of children attending it, have requested his reinstatement. This is the best proof of the benefits derived from such a system. Not only are these diseases discovered, and the spread of them prevented in this way, but many times mild, unsuspected cases of the more serious diseases, such as scarlet fever and diphtheria come under the notice of the physicians and the precautions necessary are taken and undoubtedly prevent any loss of time during the school year, due to general disinfection.

These prophylactic measures in the schools should exert a wide-spread influence, as they should tend to make the general public more careful in all public

places, and with the use of articles common to the public, such as communion cups, drinking cups, money, library books, and all second hand material.

The importance of disinfection of money and library books has been recently shown by Dr. Darlington, of New York City. During an experiment, he discovered between 135,000 and 136,000 bacteria on one piece of paper money in ordinary circulation. Staphylococci were found on all bills examined.

As the treatment of these diseases is so varied, the writer will deal with only those recent, successful ones, which he has been applying.

Impetigo contagiosa is not only a very common disease, often epidemic, but it is highly contagious among children. While it is an acute inflammatory disease, due to the pus germs, it is self-limited, and responds readily to proper treatment. The lesions are inoculable and auto-inoculable, spreading rapidly; most common with poorly fed and ill-cared for children. After soaking off the characteristic yellow crusts, a parasiticide in the form of a mild, mercurial ointment as the ammoniate, or yellow oxide, or sulphur acts more effectively than lotions because it not only protects the new skin, but prevents in a measure, infection of other areas. Absolute cleanliness is most important. Careful instructions should be given to prevent infection of others, from articles used by the patient.

Scabies or "itch" caused by the animal parasite, *Acarus-scabie*, is another common, highly contagious affection. It attacks people of all ages, and both sexes. It is easily recognized by the general practitioner by the most prominent symptom, intolerant itching, and a history of other cases similiarly affected, with whom the

patient has come in contact. It is purely a local disease and local treatment that will destroy the parasite is all that is necessary. As a rule, all the patient requires is proper instruction in carrying out treatment for the irritation and discomfort caused by the parasite at bedtime, which is a sufficient reminder of anything that will give relief. Before any medication is applied, the patient should take a prolonged, hot bath, after which there should be a thorough rubbing with a coarse towel until the skin is well reddened. This removes all dead epithelial cells and allows the medication to penetrate thoroughly. The most effectual medication is sulphur in the form of an ointment, U. S. P. This can be used freely, without any general disturbance, as a rule. This course of treatment carried out thoroughly for three nights with disinfection, baking or ironing of the bed linen and underclothes worn by the patient will exterminate the cause of the disease, although itching may continue for weeks, with neurotic patients. Quantities of flower of sulphur may be sprinkled between the sheets on the beds of patients. This continues the medication even during sleep. In skins with an idiosyncrasy to sulphur, balsam of Peru and naphthol may be substituted. Norman Walker suggests that children that are susceptible to a recurrence of this disease, should wear small bags of sulphur about the necks.

In the management and treatment of pediculosis, I will consider only that member of this parasitic family most common in children; known as head-lice, or *pediculi capitis*. This parasite is responsible for a large percentage of the skin affections of the scalp, face, and body of children, and it is my uniform custom

and instruction in all dermatological affections of the head to first look for pediculosis no matter what the social rank of the patient may be. This is easily accomplished by the presence of ova or nits on the hair shaft. The patient may be kept in ignorance of your search for these manifestations of the disease. This loathsome affection is easily recognized and a cure may be assured if proper medications are aimed at the destruction of the parasite. Close cutting of the hair of male patients will facilitate all the treatment. In my clinic practice, I prescribe that the scalp be thoroughly soaked with crude petroleum, then bandaged for twelve hours, after which a shampoo with soap be given. This will, as a rule, destroy not only the parasite, but the ova on the hair shaft. Cider vinegar, full strength may also be used with good results; both medications being household articles, usually on hand. In private practice, a shampoo of sulphur-naphthol soap for several nights will be much more acceptable, though perhaps not so effectual, as petroleum. Infusions of stavesacre or larkspur and quassia serve also as good medications; and lotions of bichloride of mercury or carbolic acid if the patient can apply them with care.

In the treatment of the varieties of ring-worm, common among children, much depends upon the location of the lesions. Ring-worm of the non-hairy portions of the body, responds easily to local parasitocides. When there is persistence or recurrence of the disease it is due to some faulty constitutional conditions, such as anæmia or scrofula. Yet in the hairy portions of the body, such as the scalp, an entirely different condition confronts us, as to treatment, because

the fungi are deep down in the hair shaft, and medications do not so readily reach the germs. More than three-fourths of this affection occur under the age of twenty, and are most common in children of the school age. It attacks the scalps of children because of the delicate resistance of their skin to these fungi and spreads because of the easy transmission of the disease from one child to another in their association at school or in institutions. Ring-worm of the scalp or body should not be considered lightly by the physician, for without proper precautions many infections are sure to occur. As the condition is often most obstinate, no child should be allowed to attend school or mingle with other children until the disease has been pronounced cured, either clinically or microscopically, and the teacher notified to that effect. In the local treatment of ring-worm affecting the hairy portions of the body, the great numbers of remedies and combinations of drugs given in our text-books demonstrate the rebelliousness of this disease. I feel that it is not so much the newer remedies that are needed in the successful treatment of this disease, as a skilful application of one or two well tried, old ones. The principles underlying the treatment of ring-worm are first, to bring in contact with the vegetable parasites, a medication that will destroy them, without harming the skin; and second, to exclude the air from the parasites, as it has been proven that the parasite is aerobic and to seal them means death. Therefore, a medication that is a parasiticide and a medium that will go down the hair-shaft, and also shut out the air are the remedies to be employed. Tincture of iodine and mild preparations of mercury and resorcin, in collodion; and if the condition is rebel-

lious, chrysophanic acid or croton oil may be resorted to. These medications should be applied thoroughly and to do so the hair should be cut, in order to reveal all the lesions. Epilations should be tried if the condition is not too extensive. This can be accomplished best after a few days of treatment. Some protection of the head, such as a skull cap of strong paper should be worn by the patient, and all articles such as wash cloths, towels, etc., used by him, be kept by themselves.

Disseminated ring-worm of the scalp may last for months or years. Cases have been reported, lasting nine years, and many cases discharged as cured may afterward come to all of us with a history of previous treatment. Therefore, this affection should demand the most prompt and thorough treatment. Microscopic examinations alone should determine the cure.

DISCUSSION.

A. P. Biddle, Detroit.—That the child should be excluded from the school when suffering from an acute infectious disease there is no question; nor will there be much difficulty in obtaining the parents' assistance. But the difficulty lies in the best means to be employed in excluding him from the school when the disease is chronic. Take, for instance, a child suffering from the ring-worm of the scalp due to the small-spored fungus, a disease undoubtedly infectious, which may exist not only for weeks but for months, and in very rebellious cases even for years. It is a very serious and difficult matter to exclude the child from the benefits of public education. The majority of these cases occur in the public schools, and it is from the public school that these children should theoretically be excluded, but to exclude them from the school means to drive them upon the streets and upon the street they are almost as dangerous as in the school-room.

Fortunately in the larger cities we have hospitals devoted especially to the care of children where, if necessary, they can be kept isolated for months.

As to the disinfection of money, of public cups, of the books of the public libraries, the difficulty

is not that the advisability of disinfection is not recognized, but that we have not yet brought forward a method which is acceptable to the public. We all recognize the value, but we have not yet presented practical methods of disinfection.

Guy L. Kiefer, Detroit.—I wish to endorse the paper read by Dr. Varney, and to add just a few thoughts that occurred to me since the paper has been read. In regard to the methods that we should pursue in order to bring about the best results in these cases of skin disease, it seems to me there are principally two. One is that we should, as much as possible, get the co-operation of the profession, and secondly, we must get the co-operation of the laity. And therefore, I think that this paper, read at a meeting of this kind, is very timely, because it will aid us in getting the co-operation of both the profession and the laity.

There is one other point that I wish to bring out, and that is that these skin diseases, their appearance, their symptoms, and their treatment should be discussed more than they are in meetings of this kind. I fear that many of these cases are not recognized. In fact I know that they are not recognized by the practitioners in large cities especially. During the last six weeks, I think I can say that there were not less than 16 cases of scabies that have been considered suspicious by teachers in the public schools of Detroit, sent home from schools in which there were no medical examiners. The cases had never been treated; they do not go to physicians, that is the reason we need to educate the laity. One of the cases I remember had been to a reputable physician in our city, who told the parents that it was nothing at all, and that they had better return the child to school, and thereupon it was sent to me and found to be a case of scabies. There were four cases in one family excluded by the teacher; they went to at least four different physicians and were diagnosed as nothing but a rash that did not amount to anything. One of them in particular was a very marked case of scabies; so I say it is a good thing to bring these discussions out at this time.

In regard to pediculosis, I went to see one of the medical examiners of a school in Detroit last fall when the children were being examined for pediculosis and he found that out of 118 in that school, 62 were suffering from that trouble.

In regard to disinfection of money and public library books and various other matters of that kind, Dr. Biddle told you about the difficulty of bringing about a uniform system in this respect,

but that is no argument against it, because we know that nearly every sanitary reform will meet with the opposition of the uneducated public. And so if we are defeated, so to speak, in the first attempt, we must try again, and accept the suggestions thrown out by Dr. Varney, to bring about some regular system of public disinfection of these various articles.

In regard to drinking cups at fountains and public places, the sanitary method would require no cups at all. A short time ago in a convention of health officers that I attended, one case was reported by a northern physician, in which he traced syphilis to a child from a public drinking fountain in that city. There was no question but that it came from that source.

Wm. F. Breakey, Ann Arbor.—I don't wish to say anything except in a general way to commend all that I have heard of the paper. I should like to hear the subject well discussed. A single point perhaps I failed to get, as to the necessity (when the skin had been once thoroughly disinfected) of the complete change of clothing and every time that these disinfecting applications are made. I think this is a practical point of much value. But we are not always able to provide against a reinfection or an inoculation from clothing already infected. I have found that to be the case often. That attendants would be very particular in bathing the patient, in putting on all the applications directed, and then put on all the old infected clothing again! The hour is so late I do not wish to take more time. But I would like to take advantage of the opportunity to mention another point I am especially interested in, and that is the dangers arising from the communication of skin diseases from the domestic animals. We know that rats convey the plague, and cats carry diphtheria, and dogs and sheep the mange, and I think more often than we know of, skin affections of various kinds are communicated by lower animals, and that wherever a case is found (as when a case of typhoid fever breaks out, we look about for the source of it), so when a case of skin disease occurs of which the source is not well known, I would suggest the looking around at the domestic animals.

I am especially interested just now in getting information on this subject, for I am preparing a paper upon "Parasitic Sycooses Communicated from Cattle," and I will be very grateful to any of my friends who will furnish me with whatever information they may have on this subject. I find that it opens a field not much

hitherto explored, in which there is an opportunity to learn a great deal about diseases of the skin.

H. R. Varney, Detroit.—I will not take up the time of the section further except to state that Dr. Biddle's criticism is a timely one, and will hold good in chronic cases.

It is rather hard to decide just what to do with the chronic ring-worm. In many cases, especially of the scalp, I still feel justified in advising that they be kept home from school. In my paper I mentioned the disinfection of the clothing as a very important factor in the treatment, especially of scabies.

THE COMBINED USE OF PLASTER OF PARIS AND ELASTIC TRACTION IN THE TREATMENT OF DEFORMITIES OF THE FEET.*

CHARLES B. NANCREDE,
Ann Arbor.

Doubtless all my hearers are aware that in the majority of cases of club-foot treated with or without tenotomy, forcible correction under anæsthesia with maintenance of the improvement thus secured by a plaster of Paris dressing is a common practice, and that after allowing the first dressing to remain for a number of days another redressment is usually made, followed by a fresh plaster dressing to hold the foot in its improved position. These manœuvres are repeated from time to time, aided perhaps by anæsthesia and mechanical devices to secure more powerful leverage until the foot is in a position to wear a permanent brace or perhaps only a walking shoe.

Many present have also seen all this done with but slow progress or unsatisfactory results, especially in adolescent or older persons, and the position is taken that of course in these latter classes of

cases the osseous changes are such as to negative success from simple measures, which are only adapted to the partially cartilaginous bones and readily yielding, although contracted, soft parts of the infant or young child.

Many orthopedists insist that division of the neck of the astragalus, the removal of this bone, or cuneiform tarsectomy is both desirable and necessary in these older patients. My desire is to show that removal of bone is much less frequently necessary than is often taught, and that a better formed, more stable base of support can be secured without any mutilating operation.

All who have had experience with the Phelps operation in adolescents or young adults must have been impressed by the wonderful amount of improvement promptly effected by simple incision of the soft parts without any division or removal of bone, and also how little bone need be removed when the pure Phelps operation fails to secure all that is desired. Upon the other hand most of us have seen what improvement in the deformity has been

*Read before the Section on Surgery, Ophthalmology and Otology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 25, 1904, and approved for publication by the Committee on Publication of the Council.

affected in infants or young children, and even in some adolescents, by elastic traction unaided by forcible manipulation and often without tenotomy. As none of the preceding contentions can be denied, it should follow that an effectual combination of both must be at least superior to one method alone. Continuous traction, exerting absorptive pressure on the hard structures in the convexity of the deformity and encouraging the natural tendency of the soft structures to atrophy when not kept elongated by traction, will produce a more rapid change of form than intermittent changes of the relations of parts such as is effected by intermittent forcible correction. The same continuous traction, even without previous weakening by subcutaneous rupture or section of the soft parts in the convexity, i. e., the side of shortening, will remove the repressive effects of pressure where the bones are too small, and favor the inherent tendency of the tarsal bones to develop into their normal forms if not mechanically hindered. Still further, constant traction will maintain a hyperæmia of the contracted, stretched soft parts resulting in their nutritive elongation. I confidently make these statements because the facts have been so often proved that they no longer require demonstration.

The mechanical advantages of one part of my method have been recognized and demonstrated by others, and published since its adoption, but as in all, elastic traction is omitted these dressings are distinctly inferior to the one I am advocating.

A few words only are requisite as to the method. After the forcible correction under anæsthesia, preceded or not by ten-

otomy or the Phelps open operation, extreme care in padding is required, perhaps protecting the parts exposed to extra pressure by soap-plaster spread on leather. I omit in the Phelps operation the division of the posterior part of the capsule and the internal lateral ligament of the ankle-joint. The foot is then put up in the best attainable position with plaster, incorporating in the dressing a light wooden sole with cross piece such as I show you, and a few links of chain in the upper part of the leg portion. It is advisable to incorporate a strip of wire gauze in the heel portion of the splint to serve as a hinge and prevent breaking of this part of the dressing.

After a proper interval, i. e., from five to ten days, according to the nature of the operation on the foot, a segment should be sawed out of the superior aspect of the dressings over the medio-tarsal joint, and rubber bands be adjusted so as to make slight traction, which is to be increased from time to time. After the hiatus produced by the removal of the plaster has been brought into contact an entirely new dressing had better be applied, which in twenty-four hours should have a segment removed and traction recommenced and maintained until the correction desired is secured, or it is plain that fresh operative measures are requisite, such as open operation where none such has been done, or some form of osseous excision, where a Phelps incision has been made; personally I have never had to resort to osteotomy after the combined Phelps and elastic traction dressing. The claims that this method can be employed before permanent apparatus is either applicable or desirable, and that this dressing is always

available, no skilled mechanic being necessary, certainly needs no extended argument, if my audience have followed my demonstration.

Careless padding or too rapid and severe traction will, as in all methods where fixed dressings are employed, be productive of blisters, sloughs, etc., but constant supervision, timely relaxation of tension, removal of portions of the plaster over points of pressure; any or all of these measures will usually prevent any serious trouble. When in doubt, remove the whole dressing, protect the projecting points with soap-plaster, carefully pad, employ improvised rings of harness felt, or corn or bunion plasters, and remove portions of the wooden sole—in other words, adopt the usual methods employed to prevent undue pressure.

I have purposely condensed my remarks as much as possible, believing that the demonstrative method is better than the verbal.

In conclusion, let me emphasize that this plan of treatment is merely a feasible and convenient combination of the most essential factors in much older methods, hence no claim to originality is made, any merits the method possesses being due to the special combination of means worked out as the result of clinical experience.

DISCUSSION.

E. B. Smith, Detroit.—I don't think this paper ought to go by without something being said about it. It shows that men doing work with their own instruments, with their own means, or by their own means, can do better work in their own way, than by adopting the means and methods of others.

This summer I had the privilege of being with, and seeing Dr. Lorenz do his work, and I saw a great many cases,—cases that were treated primarily,—cases that had been treated by him for some length of time, and cases that had

been operated upon by other men. In no case, (with few exceptions), did he operate. In all of his cases he not only straightened the foot, and overcame the deformity, but he exaggerated that overcoming,—put it in an exaggerated condition,—and all his cases got better without the aid of any regularly adopted scientific apparatus.

If he has a marked case of "Talipes Varus," or "Equinus," he sometimes puts a brace upon it, and that is a fixed brace,—a splint of plaster of Paris, that he rolls up in a bandage, one piece of bandage placed upon another,—which extends from the leg to the foot, making a scantling, as it were, to pull from the foot up to the leg. He has good results.

Dr. Nancrede has good results by doing it in his way. Dr. Nancrede's method, in his own hands, is the best; we can realize what would be the result of his treatment, in Dr. Lorenz's hands.

F. W. Robbins, Detroit.—In connection with these operations on club feet, I just have one thought that comes to me in connection with the work that has been done in radiography by Dr. Hickey. Of course this would not apply to the feet in the adult, but if others feel as I have done, they feel that the bony constituent of the foot and of the ankle in the child and young person really impresses itself on our minds too much, when we come to decide what method is to be used in trying to cure or overcome these deformities. Those of you that have seen Dr. Hickey's work in making pictures from the infant in utero up to the time that the child is several years old, will appreciate the fact that the bones in the younger children are so very slightly formed and take up such a small proportion of the substance of the foot underneath the skin as compared with older people, that one can readily see how easily it is by manipulation to entirely change the deformities or the form of the foot by manipulation. Dr. Hickey's book on this subject I presume is to be out soon and then those that have not seen his work will appreciate the fact that a large proportion of these deformities in young children can be readily and permanently overcome by manipulation.

C. B. Nancrede, Ann Arbor.—I have been a teacher of anatomy for 13 years, long before the X-ray was dreamed of, and was entirely familiar with the fact that in the feet of young children there is very little bone at birth, and in some of the bones, when the cases are sent to us for treatment there is no osseous nucleus at all.

We are all aware that there is a natural tendency impressed upon each bone to assume a certain form. We are also aware of the well known fact, that if the normal pressure is not exerted on the ends of the condyle of the femur for instance, in a young child much older than the cases that come for treatment for club foot, because of the permanently flexed position usually assumed in knee-joint disease throwing the head of the tibia backwards, that the anterior surface of the femoral condyles will become so much more convex and so much larger that the leg cannot be straightened on the thigh without dislocating the head of the tibia into the popliteal space. In other words, normal pressure determines the shape of bone and a bone that has once had imparted to it a tendency to assume a certain form and cannot do it because of mechanical pressure, if you will remove that pressure will promptly fulfil its function and assume its normal shape.

I do not suppose anybody ever dreamed of doing a Phelps operation on an infant. I also defy Dr. Lorenz or anybody else, to take a man of 19 or 20 and by any kind of apparatus if he were Hercules himself, immediately straighten a foot so that an ordinary apparatus could be put on, or a walking shoe, because of the deformity of the bones, which can only be altered slowly if at all. When I was Professor of Orthopedic Surgery in the Philadelphia Polyclinic, I used to teach and practice rather free cutting of structures and tendons, but I rarely in infants now do more than cut the tendo achilles or plantar fascia with such preliminary treatment, or often without it. I can put many feet in good position by manual force, carefully avoiding tearing off the inferior epiphysis of the tibia and fibula by lateral strain. Now I defy anybody to suddenly change—as Lorenz is unjustly reported and believed to have claimed—a club-foot into a normal foot or one which will remain in position without mechanical aid. You cannot physically and instantaneously change the shape of the tarsal bones whether osseous or cartilagenous, so that the foot will remain in its normal position without assistance, although it may with proper aid. It cannot be done and everybody knows it cannot be done. Many of Lorenz's operations for congenital hip-joint luxations have been complete and brilliant failures. I believe that before Lorenz ever thought of using as the main treatment, forcible correction, it was done in this country, just exactly as reposition without cutting in congenital dislocation of the femur, which

was done in this country before Lorenz ever dreamed of it, I think before I ever commenced the study of medicine. These are some of the facts.

Now, I have seen, after the most extensive cutting, much more than I have described in the way of a Phelps operation as I perform it, a powerful man unable in an adolescent to put the foot into position, but I know you can induce a similarly distorted foot to change its position by repressive pressure, moulding the bone on one side while by relieving the pressure on the other the bones will grow to their right shape. I do know that if you make constant tension on shortened soft structures, they will become hyperæmic and hyperplastic and that they will grow longer; that is a proposition that nobody can deny; it has been known to the profession for any length of time. As to this method I merely claim that it is a convenient way to effect the objects in view and that its chief merit is that anyone can do it who can use plaster of Paris. It is absolutely nothing in principle but a Lewis Sayre club-foot shoe, whether you have a wooden, an iron, a plaster of Paris or a leather sole, if these two rubber bands are used producing flexion and eversion of the foot if the plaster be removed on the dorsum and outer part of the foot over the medio-tarsal joint. It is not necessary to have the ball and socket joint in the sole of the shoe as Sayre had. In the case of infants, I formerly used an ordinary shoe, thinned the shank and secured to the outer and inner border of the sole opposite the line of the great toe, two rubber bands which in turn were attached above to a band of rubber material such as garden-hose is made of. This is not original but I think due to Willard. What I contend for, is that the combination of elastic traction supplementing the immediate gain secured by forcible correction and the immediate application of plaster of Paris dressing, is superior to either method alone and can be used by anyone of ordinary intelligence without the aid of skilled mechanics.

Actinomycetes.—Conclusions.

The various forms of pathogenic actinomycetes can be classified at present as seven species, which produce suppuration or necrotic pseudotubercles in man and various animals. The generic name for this group should be actinomycetes, since the other names have been previously used for other organisms.—(*The American Journal of the Medical Sciences*, November 1904. W. R. STOKES.)

AMBLYOPHIA FROM METHYL ALCOHOL USED COSMETICALLY.*

DANIEL CONBOY,
Bad Axe.

The medical literature on what is generally known as alcohol amblyopia commenced 150 years ago when it was described by the celebrated Boerhaave. Amblyopia due to wood alcohol, however, has created for itself an already imposing record only within the last decade. This is due in part to the increasing keen competition among ignorant or criminal manufacturers of patent medicines, essences and flavoring mixtures, who in their grasping desire to obtain a larger margin of profit or undersell their competitors, are induced to resort to an inferior and more poisonous alcohol. During the last eight years over fifty deaths are known to have resulted from drinking wood alcohol. Ten of these were due to the essence of lemon, and eleven to the essence of Jamaica ginger. Thirty-six cases of amblyopia following its use have been reported, 14 of which occurred after taking essence of Jamaica ginger or lemon, and eight from inhalation of the poisonous alcohol.†

The writer has seen two cases of absolute blindness caused by methyl alcohol inhaled while cleaning out a hogshead, and shown before the Chicago Ophthalmological Society about five years ago; likewise two cases of partial toxic amblyopia from either alcohol or tobacco, or both, in dispensary practice in Chicago,

but was unable to keep track of them for more than a week.

The object of this paper is to relate a case which appears unique as far as the essayist has been able to find in the meager literature at present at his command, and likewise to put his colleagues on their guard against overlooking an etiological factor now so common in many households for heating pneumatic baths, and at the same time so potent a cause for evil.

On November 3, 1903, a call was received to visit Mrs. H., aged 58, bright and intelligent, and withal good-looking, the latter partly due to the good, though on this occasion unfortunately excessive, care she took of her complexion. She was found with sight very much diminished, "almost blind" as she described her condition. The central visual acuity was especially impaired. A large parlor base-burner was recognized by its outlines only. The eyes of a person about four feet from her appeared as dark spots on a white background, their form and color not being distinguishable. This fact, after the exclusion of nephritic and diabetic retinitis by uranalysis, which had been made about three weeks previously in quest of uricacidemia in a slight attack of rheumatism, lead to the provisional diagnosis of a toxic origin. The trouble had been coming on gradually for two weeks. She had also had vertigo occasionally,

*Read before the Section on Surgery, Ophthalmology and Otolaryngology at the annual meeting of the Michigan State Medical Society at Grand Rapids, May 27, 1904, and approved for publication by the Committee on Publication of the Council.

†*Journal A. M. A.*, Editorial, April 16, 1904. A later and more general investigation published by Drs. Buller and Wood in *Journal A. M. A.*, Vol. XLIII, Nos. 14-18, gives 153 cases of blindness and 122 deaths.

particularly at church, and would have fallen the Sunday morning previous had it not been for her husband who accompanied her. Accordingly, the interference with vision and the dizziness had been attributed by her to the colored window panes of the church, since these symptoms appeared aggravated on Sundays.

In searching for a toxic cause my first surmise was that of auto-intoxication, of which there are cases on record producing disturbance in vision, but no irregularity, however, was discoverable in the digestive tract. A natural second good guess was directed towards the discovery of a source of intoxication from without, and inquiry was made with regard to the use of Jamaica ginger. The patient laughed at the apparently strange question, saying that she used ginger only in pumpkin pie and that the other members of the family had partaken equally with herself of it without any unpleasant results. Wood alcohol was nearly passed over without any direct mention of it for fear of wounding her feelings by any such insinuation, but an explanation was deemed necessary by informing her that Jamaica ginger, essence of lemon and similar flavoring and culinary mixtures sometimes contained methyl alcohol, which would certainly cause the condition from which she was suffering. The patient immediately raised her hands in surprise and stated she had been using wood alcohol for some weeks, both for heating her pneumatic bath and as a cleansing application to her head and face daily, especially on Sunday mornings before church. On my second visit she said that why her left eye was the worse of the two was because she had always applied an extra quantity to the left tem-

ple over a dark spot which had given her some worry.

The alcohol was at once discontinued and sodium salicylate administered *ter in die* after meals. The usual daily progress of diminution of sight was arrested immediately, but the impaired vision remained *in statu quo* for four or five days, when it began to improve. Both on account of her blindness and the continuous stormy weather she was unable for over a week to come to my office for ophthalmoscopic examination.

The fundus even then presented an interesting picture. The temporal half of each optic disc showed a pallor very much emphasized by the hyperæmia and neuritis of the remaining part. The nasal portion of the nerve-head was swollen about 1 mm., which at first showed a puzzling parallax on movement of the ophthalmoscope, puzzling because the pupils were only slightly dilated on account of the patient's nervous fear of cocaine, very little of it having been used. She now naturally distrusted almost every application as poisonous. At first attempt with this restricted view through a small pupil there appeared the curious anomaly of two differently colored discs in each fundus, but a closer study of the two halves seemingly floating around on different planes solved the problem.

It is to be regretted very much that tests were not made for other vision phenomena such as color scotomas and the peripheral boundaries of the visual field. My whole attention was directed towards endeavoring to arrest further progress of the disease and if possible to effect a cure. I considered that I had "clinched the diagnosis," as Dr. Casey A. Wood said in a private communication, "by examination

of the fundus." No thought of publishing the case was entertained at the time, and hence these accessory phenomena were unfortunately neglected.

At the first office examination, nearly two weeks after case was first seen, the vision for distance was R. 7/40, L. 7/50.

On November 18, R. = 7/30, and L. = 7/30—.

On the 24th R. was 7/20— and L. 7/30.

December 3, one month after first visit, R. = 7/20 and L. = 7/30—.

December 7, R. = 7/20— and L. = 7/30+.

December 9, R. = 7/20 and L. = 7/30+.

The last examination was on December 18, when both R. and L. were 8/20, which

the patient thought was about the same vision that had existed before she used the "nasty stuff."

When the papillitis had vanished from both fundi, strychnine in increasing doses was exhibited for the purpose of preventing optic atrophy, a much-to-be-feared consequence of methyl alcohol poisoning. Treatment with static electricity, patient connected with the positive potential, was added thrice weekly as a nerve and general tonic.

A left convergent strabismus occurred occasionally in the beginning of the trouble, probably due to the imbalanced internal and external innervation from excess of the toxin on that side, whereby the left eye was the more easily thrown out of commission.

REMARKS ON THE HISTORY OF THE MASTOID AND RADICAL OPERATION ON THE MIDDLE EAR, WITH DEMONSTRATION OF ANATOMICAL SPECIMENS.*

EMIL AMBERG,
Detroit.

In our time of medical progress, when our minds are so much occupied with recent achievements, and our energy is engaged to such an extent in assimilating the new, only little opportunity is left to look backward for a longer span of time. And yet it is essential to view the method of development of medical science, for several reasons.

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First—We learn the important fact that only deductions based upon sound and thorough observations are destined to live, and we become more able to judge of the worthlessness of doctrines founded on loose ground. We become familiar with the co-operation necessary to achieve things which had not been achieved before. By stated efforts of those whose works are handed down to us, we learn to understand the all-important necessity of logical teaching, of discrimination in recognizing facts and their bearing upon disease, and of the persistent adherence

to experiences based on a simple and easily understood foundation.

Second—We become familiar with the peculiar trait of the human mind, which sometimes is influenced too much by considerations of minor importance, which latter is especially exemplified in the history of the mastoid operation when the outcome of one case was instrumental in discrediting the operation, as such, for a long time.

Third—We are not induced to reinvent methods which have been abandoned long before, for good reasons.

We are now accustomed to regard the mastoid operation as a common household article in surgery, and yet it is comparatively recently that the same was re-introduced.

Looking back over some of the more recent literature on the subject, I find the first reference on page 79 in the June edition of *The Monatsschrift fuer Ohren heilkunde*, 1873, a review referring to the article of Schwartz and Eyssel in the *Festschrift* in honor of Blasius, Leipzig, 1873, entitled "The Artificial Opening of the Mastoid Process." In the November and following issues of the same periodical, of the same year, Bezold published a series of articles entitled "The Perforation of the Mastoid Process, from an Anatomical Point of View," in which he reviewed also the history of the mastoid operation to some extent.

Schwartz refers to the suggestions of Riolan and Rolfinck (*Handbuch*, page 878; Vol. II) who suggested the opening of the mastoid cells in order to renew the air in the middle ear where the eustachian tube is occluded. He gives credit to the great French surgeon, Jean Louis Petit

(1674-1760) who performed the mastoid operation successfully.

The Prussian military surgeon, Jasser (1776), has created a more general interest for this operation by carrying it out successfully on a recruit. He perforated with a *troisquart* in the middle of the mastoid process somewhat upwards, where the large cells about begin. He did not know of Petit's operation, according to Schwartz (*Handbuch*, Vol. II, page 879).

I quote the whole publication of Jasser on account of the importance of the subject and to show what was done over 125 years ago, furthermore to illustrate that already at that time the failure of remedies was established which are frequently applied even today to the disadvantage of the patient.

From Schmucker *Various Surgical Contributions*, Vol. III, pages 113 and foll., the following is quoted: "The fifth remark, when after a healed affliction the patient had an ear ache with a constant discharge of pus from the ear, and at last lost his hearing, by Mr. Jasser, Regiment-Surgeon of the Von Lengfeldschen regiment.

A soldier by the name of Hittberg was sent here as recruit when the regiment was made up from the Apenberg Dragoon Regiment. At the inspection of recruits he reported that he had had a pain in his ear for many years, and that pus constantly came from the ears; that he had lost the hearing in the left ear entirely, and that he was very hard of hearing in the right ear. I asked him whether he had been otherwise always in good health, and his answer was that he had until about four years ago when he had had some ulcers on the right foot, which had healed, and since they had healed he remembered well the pain had come on in his ears and the discharge of pus commenced. I examined his ears and found very offensive pus coming from the same. The commander of the regiment, who was present at this inspection, lifted his cane and assured the recruit that this was the true remedy to restore his lost hearing, and to bring the pus from his ear. As this new remedy was suggested I could not think of declaring the patient

an invalid. He received his uniform and had to start to practice.

After three weeks this man was brought to me to the hospital. He had high fever and complained of severe pain in his right ear. The pain in the left ear was bearable since the hearing was gone. Very little pus came from the ear. I had a venesection performed. The blood had an inflammation skin. I had softening poultices applied over the ear, and injected into the ear milk in which althæ root was boiled. The pain and rise of temperature persisted; the following day venesection was repeated, and for internal use he had a tempering potion and mildly irritating enemata were given. As the pain still persisted, although the fever diminished, on the seventh day vesicants were applied behind the ear and in the region of the neck. As I had at this time some 350 patients in the regiment, and my surgeon's mates were mostly sick themselves, I could not treat this patient as his condition demanded. The external remedies could not be applied properly because there were too many patients and too few surgeon's mates. As the patient was free from fever, I sent him back to the company. I have frequently had this patient since under my care for the same attacks. As his affliction was of such long standing I let him return to the company each time as soon as he was free from fever. He complained always that the hearing of the right ear continually grew worse, but he was a soldier and a soldier he must remain. The man was worthy of all sympathy because he was frequently punished for not hearing the orders of his commanding officer. This man was put in the same category as the Poles who did not understand the German language and who therefore might as well be regarded as deaf. Many recruits from Poland were sent to the regiment. In the year 1776 he was again sent to me to the hospital. This time he had high fever and the pain was so severe that the patient was delirious. Within two days I had two venesections made. I gave mild cathartics and applied to the ear softening injections, also steam baths, and applied behind the ear vesicants and leeches. All these remedies were applied one after the other and partly repeated, but without giving the patient even the least relief from pain. He walked the floor day and night and I was obliged once in a while to give him a dose of opium to induce sleep for a few hours. The pus from the ear was so profuse that it ran down the side of his neck, and had an offensive smell. When I pressed on the outer opening of

the ear (the violent pain was in the right ear only) there came forth a thick granular pus. In the course of three weeks it appeared as if there must be some deposit behind the ear on the mastoid process. Up to this time I had always put vesicants on this part. There was a small prominence and I thought I could detect by touch a fluid. I now put softening poultices on the part and the next day the small prominence had disappeared, and I could not detect any fluid by touch, as I had done previously. I changed from the softening poultices to irritating remedies again, and put on the Basilicon ointment, which was mixed with Spanish fly powder. There was again a prominence and the supposed fluid. The fever was at this time high, increasing and diminishing with the pain. It was impossible to keep him in bed,—most of the time day and night he walked the floor, and frequently the pain was so great that he tore his clothing. I took the bistouri and made in this region an incision one inch long, down to the bone. Out of this opening there came a few drops of very thin and sharp pus, and yet I could not detect anything else by probing. Afterwards I again had softening poultices applied to the wound. I hoped that the patient would now experience relief from his pain, but it remained just the same. On changing the dressing I found a black spot on the charpie. This attracted my attention because I supposed that there would be an osteomyelitis under the tendon of the sternocleido-mastoid muscle under the mastoid process of the temporal bone, but as I could not detect anything by the probe I took the bistouri and denuded the mastoid process more from the tendon and the periost. At last I found the whole surface of it quite rough and bare of pericranium. I went with the probe over the surface of this bone till I entered into an opening in the bone. As I pressed deeper the probe remained fastened in the cells of this process so that I had to take pains to get it out again. At this moment I had the most formidable idea of the result of the outcome of this disease. Osteomyelitis was present. If this went into the cells of the mastoid process, with what remedy could I conquer it? Also, it was possible that the osteomyelitis might attack the inner surface of this bone, and with the deepest sorrow, in my thoughts, I saw this patient suffer a slow death. I asked for a syringe, and as I had nothing else at my disposal I took an infusion of "breast tea" and injected it, lukewarm, into the opening. The tube of the syringe filled this opening so exactly that it fitted like a

wedge. None of the fluid came from the outer wound. When I paid attention to the outer opening of the ear the patient bent his head to the left side, as one draws away in fear of a prick. Suddenly he exclaimed "My God, what is going on! Something is running through my ear into my head." He then began to snuffle and the injected fluid ran out of the right nostril. I was frightened myself at this event, but in order to be sure of the same I repeated the syringing more frequently. At the same time pus came freely from the outer opening of the ear, but I could not detect whether any of the injection fluid was mingled with it. The patient had a pleasant expression on his face. I asked him how he felt and he answered, "God be eternally thanked, I find that the pain in my ear is less." I put a dry dressing on the wound, the patient went quietly to bed and slept without interruption for ten whole hours. He had laid on his right side and very little pus came from the outer opening. I treated the patient again in the evening and injected the same fluid. As he had been so well, that day, I, purposely, did not change the fluid. I asked the patient how he was, and he answered with joy that the pain had almost entirely disappeared, except that at times he had sharp, shooting pains in the ear. The discharge of pus from the outer ear became less every day, the color of it improved as did the offensive smell. In a week or eight days the pain and the discharge had stopped entirely. I discontinued the syringing and simply dressed the wound with dry charpie. For some time the bone could still be felt to be bare, but as there was no pus coming from the opening, I drew it together. After three weeks the wound had totally closed.

I confess my ignorance in this case, as I could not explain the course which the injection fluid took through the bone. I knew that the cells of the mastoid process of the temporal bone are in connection with the hearing, but how this connection with the eustachian tube was, I had heard nothing of in the lectures on osteology and physiology. I had heard that the mastoid cells helped to increase the hearing. The eustachian tube is counted by the anatomists to the outer tools of hearing, and it is known that deaf people can increase their hearing by opening the mouth, and that this is accomplished through the eustachian tube, and is caused by the vibrating motion of the air, which is much finer and more fluid than the fluid I injected. According to my idea, the injection fluid goes from the mastoid cells

into the posterior part of the tympanic cavity, and from there into the eustachian tube. It also occurred to me that the normal condition of these parts might have been changed by the presence of pus. I took a dry skull, sawed through the mastoid process of the temporal bone, and whenever I syringed into a cell the fluid emanated from the petrous portion of the temporal bone, that spot where the cartilagenous part of the eustachian tube is attached. (This experiment is entirely right as I have imitated it on temporal bones, but I have observed the following: First, in order to let the injected fluid pass through, some want to be perforated nearer to the tip, some nearer to the root. The reason could be found in the spot where the cells were large enough to take up the tip of the syringe. Second, in two this experiment succeeded very quickly, for instead of many cells in those bones there was only one in one bone, and a double cell in the other. Third, in all these experiments none of the stained fluid came from the meatus auditorius osseus. (Falkenberg.)

It seemed to me worth while to investigate further this phenomenon. We have to thank many acquisitions to our art to an accidental occurrence. I asked myself, would it not be possible to re-establish lost hearing in men who have lost it through long continued pain, or disease by trying to perforate the mammilar portion of the temporal bones and there use injections adapted to the affliction? I had the best opportunity to make this experiment on my patient, who, years since, had lost the hearing in the left ear. I presented the matter to him. At first he was afraid of the cutting. I reminded him, however, that it had not caused him any pain when I cut his right ear, and after I promised him compensation, he consented to undergo whatever I wanted to do for him. I thereupon, made an incision through the skin of the bone, and denuded the bone in a circumference of a large pea, and as I had no other instrument for perforation, and only the outer plate of the bone had to be perforated, I used the *troisquart* for this. This perforation took place in the middle of the process, a little upwards, where the large cells begin. As the opening was so large that I could introduce the tip of an ordinary small tin injection syringe, such as are used in our hospitals, I injected a water decoction of myrrh. The fluid came from the left nostril, and after four days the patient told me that he could again hear with the left ear. I continued for several days with the injections. The patient would then close

the right ear, and with the left ear he understood everything I said to him and gave me the right answer. Yet he told me that the hearing in the right ear was much more acute. I made the experiment, to speak very low to him, while the right ear was closed. He did not understand all, but most of the words. However, I was very much satisfied as I was convinced that the patient had regained the hearing in the ear which had been deaf for many years. On this wound I put a simple dressing, most of the time dry charpie. Finally I drew it together and it was whole within three weeks, without that I noticed an exfoliation of the bone. Since that time, and now while I am writing up this occurrence, I have made the experiment with entirely fresh skulls, and the fluid invariably comes out of the nostrils. While I write this I have an entirely fresh skull on which I have again tried the injection into the mastoid process. In this latter experiment the fluid appears also in the outer opening of the ear. When the skull is not in a perpendicular position we can understand that the fluid will run into the mouth.

The patient since this time has always been healthy and the pain in the ear never returned. He is still living, and I told last fall the regiment surgeon Creutzwieser of the Hessen Philipsthal Regiment of the case, and asked the soldier to appear before him. He told him of the beginning, the course, and the ending of the case. I have given the doctor dry temporal bones, and he has made the experiments himself with the injection. Anyone who will make the experiment will find himself convinced of the truth of this case. Should a patient come to me who has lost his hearing and who is not afraid of cutting and boring, which in this region is of no importance or danger, I shall repeat this experiment without hesitation.

The occurrence which I have here described is perhaps not a new discovery, although it is entirely new to me. I confess that there is much the older surgeons have written that I have not read, but it is sufficient for science if repeated observations place the truth in a stronger light."

In 1790 Fielitz reported three operations on the mastoid process, and in 1791 Loeffler operated according to the method of Jasser (Bezold in *Monatsschrift fuer Ohrenheilkunde*, 1873).

The private physician of the King of Prussia, Johann Just, von Berger,

who suffered from deafness and dizziness, insisted on having his mastoid opened (1791) and he died from the operation (Blau, *Encyklopædie*). The autopsy showed that the place chosen for the operation was on the posterior portion of the mastoid process, one width of a finger over the meatus. The instrument used for the operation was the perforator, and it entered too far into the cranium. He died on the 13th day after the operation of septic meningitis and phlebothrombosis.

In 1824, Weber, of Hammelburg, operated again on the mastoid process.

Of the article by Weber I quote only a small part from *Frederick Hesselbach Naturheilkunde*, pages 227, etc. It is entitled "History of an Abscess in the Inner Portion of the Ear, which has been evacuated by a Perforation of the Mastoid Process, and Cure of the Ear Affliction dependent thereon. By the District Court Surgeon Weber, in Hammelburg."

"Although Riolan knew of the connection of the cells of the mastoid process with the tympanic cavity, and suggested to use this discovery for surgical purposes, the suggestion was not acted upon. Even Morgagni, the famous anatomist, denied the existence of such a connection, whereupon Murray proved it with certainty. Only since Jasser, in the year 1776 accidentally through these circumstances caused the cure of a long lasting otorrhea and deafness connected therewith, the perforation of the mastoid process was the subject of surgical speculation. It has been recommended (Arnemann) in accumulations of pus, mucus, and blood, in the tympanic cavity, where the eustachian tube is occluded and there is caries of the ossicles present, etc. Nevertheless I have nowhere found described an instance except that by Jasser on the other ear of the same patient where it has been done with success.

I believe I am not wrong when I report the following history of a disease and operation. The patient, Jacob Gerrich, of Waizenbach, 44 years old, experienced the first symptoms of his disease towards the end of August, 1824. "All these remedies were applied, but the disease increased, and he found himself obliged, on the 5th of November, to consult me again. I recog-

nized in the appearance the existence of an inner otitis, namely a straining, pressing pain in the ear, ringing, sleeplessness, redness and fear of light in the eyes, fever, accelerated, hard pulse, were the most prominent symptoms. I ordered leeches around the ear, softening narcotic vapors in the ear from *hb. althea. hyoscyam flor. medililoti et tiliae*, poultices of *hb. conii maculati. hyoscyami et sem. lini* around the ear and internally an anti-phlogistic mixture. There was some relief until the 8th day of November when an abscess formed in the ear, which evacuated itself on this day through the drum membrane and the outer ear. Informed of this, I ordered continuance of the vapors until the 11th, when I replaced them by injections of a decoction of barley with purified honey. The pain had now disappeared; the discharge of pus was little and by the 18th of November it amounted to only a few drops a day.

The patient, much delighted to have been freed from his intense suffering was very hopeful, did not pay any attention to the existing pain and worked in the field on a cold, stormy day. Promptly his imprudence revenged itself, and a tremendous, raging, piercing pain in the whole head obliged him to go home and to bed, where he suffered a severe chill, and all those symptoms occurred which I have described under November 5th. The discharge of pus had disappeared. All kinds of external and internal remedies did not bring any relief. On the 29th of November I found some redness, caused by the poultices, but no fluctuation. I decided to make an incision in the mastoid process as the principal location of the pain, hoping to find it discolored in some places, perhaps even perforated, and so to cause an evacuation of pus by breaking the discolored portion or by widening the opening. However, I found the mastoid process healthy and of natural color. I now expected my salvation from the local hemorrhage, which I kept up. I did not dare to bleed on account of the great weakness of the patient since the 21st. I then filled the wound with charpie and dressed it with plaster.

I spoke yesterday to the man and his relatives of an operation as the last remedy to restore him. I explained to them the operation of the mastoid process. Filled with confidence they expected that the operation of to-day was the one spoken of, and that it would bring help and relief to the violent pain, and they were not a little perplexed and disturbed when my work of to-day did not bring the least relief. In 12 days the pain had not allowed the patient a moment

of sleep; he had scarcely eaten anything and was very much weakened. He wished for death, to free him from his pain. He and his relatives asked me to try any means, even the most doubtful, as death was certain and salvation still possible. Although I was not decided myself I promised for the next morning an operation, in order to encourage the hope of the despairing. After I had told the patient again on the morning of the 30th of November, of the doubtful result in all its bearings, I proceeded to open the mastoid, as it was urgently desired by him. I opened it almost on its highest prominence, ten lines behind the ear, seven from the upper and four lines from the posterior border of the mastoid process. I pushed in the troicar boring and directed forward about three lines into the bone, until the lessened resistance indicated to me the presence of a cell. Now I retraced it, and what joy for me, when I saw, in retracing it, a stream of pus running toward me. The previous day I had performed the operation on a dry skull and also on a young boy who had just died, and I convinced myself that it was not so very easy." * * *

"In the beginning of January, 1825, the pus disappeared, the strength of the patient increased and on the 22nd of January the wound had healed without exfoliation of the bone. The hearing exists since in its former integrity and the man is healthy and well."

Later on Pagenstecher gave more thorough indications for the operation, and several others performed the same. These and other sporadic efforts could not re-establish the mastoid operation. Even such a prominent aurist as Troeltsch could not overcome the prejudice caused by the fate of Berger.

In 1873 Schwartze, as mentioned before, came forward.

Against the all-powerful opposition Schwartze declared war and carried the field. He based his claims on the pathologic anatomy of the ear, he pronounced the indications for opening the mastoid and came before the world with a number of cases on which he had operated successfully. He entered the dark continent of medical ignorance and prejudice and

spread the light of knowledge in this field of surgery. From this time we may consider the mastoid operation established on the scientific basis recognized today. To him our thanks are due for the rapid progress of surgical otology. His indications are the following:

"In acute primary and secondary inflammation of the mastoid process, if under application of antiphlogistic remedies (especially application of ice pain, edema and fever do not cease after a few, not more than eight days. 2. In chronic inflammation of the mastoid portion, with repeated attacks of swelling which disappears for a time, or with already formed abscess, fistulas of the skin over the same, with descending abscesses on the side of the neck and throat, in the meatus, or toward the pharynx, even if for the time being there do not exist symptoms endangering life. 3. In chronic suppuration of the middle ear, without other symptoms of inflammation of the mastoid, so soon as symptoms appear which make it probable that there is a complication endangering life, caused by the retention of pus or the formation of cholesteatoma. 4. In otherwise incurable neuralgia of the mastoid process. 5. As prophylactic operation, against fatal sequels or incurable fetid suppuration without signs of inflammation in the mastoid process and without signs of retention of pus (pain, fever) so soon as an exact otoscopic examination shows that the suppuration is not confined to the tympanum.

Entirely different from the mastoid operation is the radical operation. By the radical operation we understand (Blau, *Encyklopædie*, 1900, page 222) the formation of one single bough-shaped cavity, consisting of the tympanic cavity, the mastoid cells and the external meatus. Its object is the cure of the ear suppuration through epidermization of the walls of the big cavity, formed by the tympanic cavity, the aditus ad antrum, the antrum and the mastoid cells, through removing the posterior, or upper portion of the meatus auditorium externus. This operation results in the formation of a cavity covered by epidermis.

It should be clearly understood that a thorough mastoid operation is by no means a radical operation.

In the year 1889 Kuester (see Blau *Encyklopædie*, page 228) came forward with the suggestion:

"To open the bone broad and so that every portion of it could be inspected; to remove every diseased portion, and to lay bare the source of suppuration so perfectly, that the evacuation of pus is not prevented anywhere."

He demanded principally the removal of the posterior wall of the external meatus.

Von Bergmann, Zaufal Stacke, Schwartze, and others have worked to build up the methods and technique of this operation. There exist several methods for the plastic to reach an early epidermization of the cavity.

Indications for the radical operation according to Ludwig Stacke: "The surgical free opening of the middle ear cavities after detachment of the auricle as radical operation for the cure of chronic suppurative middle ear diseases, of caries, necrosis, and cholesteatoma of the temporal bone with histories of the first one hundred operated cases. Tuebinger, 1897."

"The radical operation is indicated as soon as the diagnosis of a chronic otherwise incurable suppuration of one of the three spaces is established, of the epitympanum of the aditus, or of the antrum, be it that we have before us, caries, granulous otitis, cholesteatoma necrosis, or an empyema, with more or less considerable diseased walls."

In view of all we know now about the suppurative affections of the middle ear we are able to answer upon the question why it is safer not to wait too long before operating on the middle ear, that it is easier to deal with a mastoid affection which does not extend into the neck, into the lateral sinus, into the cranial fossæ.

or into the meninges or the brain. Complications of such nature require more extended interference, and a more prolonged after-treatment, besides giving a doubtful prognosis. The early incision of the drum membrane is of paramount importance. Koerner published the experience that the number of patients in whom the drum membrane had been opened early in a middle ear suppuration, did not have to submit to mastoid operation so frequently as the number of patients in which an incision of the drum membrane had been postponed. For the general practitioner I should like to emphasize the necessity of an early incision of the drum membrane in acute otitis, media and the early recognition of a mastoiditis.

Furthermore, close attention should be paid to the conditions of the nasopharynx and the fauces. Affections of the nasal

passages hypertrophic and diseased tonsils, and especially adenoid vegetations must be attended to, in order to prevent and to successfully treat a middle ear suppuration.

If I should be asked what, in my mind, is the reason that the mastoid and radical operations are still looked upon with fear by many I am obliged to answer that it is the lack of good training in otology in the medical schools, the absence of thorough bedside experience, which is so important in middle ear affections, and the fact that there does not seem to exist sufficient anatomical material to practice the technique of the operations which is not easy. For the shortsightedness in the latter instance the community pays the penalty with the death of many of its members. More autopsies and more opportunity to perform operations mentioned on the dead body will surely save many a life.

Endocarditis.—Conclusions.

1. Malignant endocarditis is a disease of bacterial origin; it differs from single acute endocarditis in the extent of endocardial inflammation and tissue necrosis; in the fact that the right heart is more often attacked; in the more frequent embolic processes which are septic in character. Micro-organisms are found in the blood during life, in the thrombi and in the heart valves after death.

2. There is nothing in the clinical appearance distinctive of any particular variety of germ causing it.

3. Primary cases are rare, though they do exist; most cases, however, accompany rheumatism, septicæmia, the acute infectious diseases, or are engrafted upon an old endocarditis.

4. Almost all are fatal; the ones due to severe infection in a few days; the septic ones in a few weeks. The first variety have a leucocytosis of 15,000 or over; the latter usually below that number, some being slight.

5. Emboli and hæmorrhages are of frequent occurrence and may be fatal in their results.

6. The urine usually shows evidence of nephritis; it may contain blood and pus from hæmorrhage or infarct.

7. Infants and young children seem to be almost exempt from the disease.

8. Treatment is usually unavailing, excepting the serum therapy which is of uncertain value.—(*The American Journal of the Medical Sciences*, November, 1904. R. S. MORRIS.)

Abnormal Frequency of Urination Treated with Epidural Injections.—Conclusions.

1. Epidural injections with decinormal salt solution offer the most promising results in abnormalities of urination due to faulty vesical innervation.

2. Incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathological condition) can at least be ameliorated by epidural injections.

3. Cautiously performed, epidural injections are in no wise dangerous to the patient.

4. Epidural injections are no more painful than any hypodermic injection with a mild solution.

5. Epidural injections can be performed by any one who follows the technique outlined and is alert to those anatomical variations which are so frequent in the region.

6. The immediate effects of epidural injections are very rarely even disagreeable.—(*The American Journal of Urology*, November, 1904.)

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Editorial

RULES GOVERNING MICHIGAN UNIVERSITY HOSPITALS— THE RICH TREATED FREE.

Hospital management still presents many mooted questions. Its relations to medical teaching, the medical profession and the people are not entirely satisfactory. Hence, the official statement of the Regents of Michigan University will be read with interest. They have two hospitals and two medical schools under their control. Whether the Regents consulted with their faculties or the profession at large or even their own alumni does not appear. We trust every physician in Michigan will carefully study these rules and decide for himself whether, in his judgment, they will promote the interests of (1) the schools themselves, assisting the faculties to secure more and better clinical material; (2) the University as a whole; (3) the alumni of the medical schools; (4) the medical profession of the state; (5) the people of the State of Michigan. The *Michigan Alumnus*, October, 1904, gives the official statement answering queries propounded by Dr. Carrow thus:

"1. The primary object for which the University Hospitals were established and maintained by the people of the state is to furnish the medical faculty facilities for giving instruction to medical students,

and all patients admitted to these hospitals for medical or surgical treatment are admitted upon the express conditions that they shall receive such medical or surgical treatment in the presence of medical students for the purpose of giving medical or surgical instruction. Hence, if the patient is valuable for the purposes of giving medical or surgical instruction, the question whether he is rich or poor is not one which the duty of any employee of the University of Michigan requires him to investigate, or to remark upon either to the patient or in the presence of the students.

"2. In no case shall any patient coming to the University hospitals for treatment be subjected either directly or indirectly to any influence, pressure, or inducement on the part of physicians in charge of the hospitals or their assistants, or by any employee of the University, to induce such patient to leave the hospital and go to the private office, or private hospital, of any of the hospital physicians or elsewhere for treatment.

"3. Whenever a patient has been admitted into either of the hospitals for examination and treatment and has been so registered, no hospital physician or assistant physician shall be allowed to treat such patient as his private patient for the relief of the ailment for which such patient has been admitted to the hospital unless such patient shall have signified in writing to the superintendent of the hospital his or her desire for such change.

"4. The superintendent, the hospital physicians, the assistant physicians, the internes, nurses, and all employees are hereby required to give all patients proper and prompt attention, and subject them to as little delay as possible, to the end that all persons coming to the hospitals of the

University of Michigan for medical or surgical treatment may do so with full assurance and perfect confidence that they will receive speedy and considerate attention.

"5. The University of Michigan and not the physician shall furnish to patients in its hospitals any glasses, optical, surgical, or other appliances which may be prescribed for their relief by the physician in charge of the case.

"6. It shall be the duty of the superintendent of the hospital under the direction of the physician in charge of the case to procure and furnish to the patient such glasses, optical, surgical, or other appliances so directed by the physician in charge at a reasonable cost."

Two branches of the Michigan State Medical Society—the Wayne (p. 559) and Shiawassee (p. 556) Counties—have unanimously protested against the action of the University Regents in ordering the free treatment at the State Hospitals of the rich as well as poor. The Wayne County Medical Society has appointed a committee to confer with the Regents on the matter.

NATURE'S WAYS.

We are surrounded on all sides by a great number and by a great variety of micro-organisms, some virulent, others non-virulent. Nature is indeed kind to us all. How comparatively few of us suffer from the presence of these hosts of microbes. Roger* has most interestingly described the defense of the organism against infection.

When infection does take place one of two things may happen. There may be no struggle between the microbe and or-

ganism because of the highly virulent nature of the microbe or because of the low resistance of the organism, or the invaded organism may endeavor to arrest the invader or to circumscribe the infection, producing a local reaction. Unfortunately this first defense is often insufficient and the microbe enters the circulation.

What are some of nature's defenses against the various micro-organisms? Lymphatic glands, great omentum, liver, lungs, serous and mucous membranes and skin all guard the living organism against the pathogenic microbe. A micro-organism getting into the lymphatic vessels reaches a lymphatic gland where, it has been demonstrated by Manfredi, it loses part at least of its virulence. Contrary to what was once believed, the peritoneum resists infection well. The great omentum plays an important part in the protection of the peritoneum.

The intestine normally is full of bacteria. Some of these may and do at times become virulent. The defenses against bacteria endeavoring to invade the organisms from the intestinal tract are as follows: (1) Intestinal epithelium; (2) mesenteric glands; (3) liver, and (4) peritoneum.

Roger's study of the action of the liver and lungs on the various organisms is of much interest. He finds that the liver is a protective organ against anthrax bacilli and the staphylococcus aureus, while the lungs have the same action on the streptococcus. His researches show that the liver is an excellent culture media for the colon bacillus. The frequency and gravity of hepatic infection of gastro-intestinal origin is well explained by this fact. He further found that fasting diminished the protective function of the liver against

*Infectious Diseases by C. H. Roger.

the staphylococcus aureus, but quite slowly. Ether and glucose taken in large doses diminished also the protective power of the liver. In small doses they increased it.

Various microbic poisons are found within the intestine. The interesting researches of Queirolo, Denys and others have established the protective roll of the intestinal epithelium, which acts on both vegetable alkaloids and certain microbic toxins, especially those produced by the colon bacillus. Some of these poisons leave the intestinal canal through the lymphatics, only to be arrested and modified by the glands. The greater part, however, pass into the blood and reach the liver through the portal vein.

The liver arrests vegetable alkaloids, toxins, modified aromatic substances, arrests and neutralizes ammonium salts (at least those in which the base is united with carbonic acid or some organic acid). The lungs are able to attenuate at least certain poisons. They act on vegetable alkaloids, ammonium carbonate and fatty acids.

On entering the blood microbes probably undergo attenuation by oxidation or by neutralization exercised through certain principles which the leucocytes diffuse.

The kidneys serve for elimination of toxins. The infectious poisons contained in the organism are albuminoid substances. Those contained in the urine are of alkaloidal nature. Roger suggests that perhaps the primary complex molecule is broken up in the kidney and leaves this organ as an alkaloidal radical.

The respiratory apparatus eliminates volatile substances. The skin likewise eliminates toxins. The toxins in the

intestine may cause a diarrhoea, vomiting or both, and by this means some of the toxin is removed from the body.

THE CARDIAC AND VASCULAR COMPLICATIONS AND SE- QUELS OF TYPHOID FEVER.

William Sydney Thayer* sums up our knowledge concerning the subject in the following conclusions:

1. *Typhoid fever* is a disease which from a clinical standpoint, is often associated with symptoms suggestive of a grave weakening of the heart muscle. These changes, whether due primarily to direct action of the typhoid poison on the heart or to impaired nourishment from vaso-motor paralysis, result, in a considerable proportion of cases, in a temporary insufficiency of the mitral valve as indicated by the appearance of apical systolic murmurs which are, not infrequently, transmitted to the axilla. These murmurs develop especially at the height of the disease, during the latter part of the first and in the second, third and fourth weeks, and disappear usually with convalescence. Sometimes, however, they may persist.

Twelve out of one hundred and eighty-eight cases of typhoid fever who were followed from three months to fourteen years after convalescence, showed conditions suggestive of organic cardiac lesion. In the majority of these cases a systolic apical murmur had been detected during their illness. Over one-fifth of our old typhoids in whom, during their illness, a systolic apical murmur was heard, showed

**Johns Hopkins Hospital Bulletin*, October, 1904.

on subsequent examination evidence of organic disease. The average systolic blood pressure (Riva Rocci) was higher in every decade among our old typhoids than in healthy individuals who had never had the disease. The radial arteries were palpable with strikingly greater frequency in our old typhoids than in healthy individuals of the same age who had never had typhoid fever.

2. *Endocarditis*, while not a common complication of typhoid, is probably more frequent than generally supposed. It was present without being suspected in 3 out of 95 cases coming to necropsy at the Johns Hopkins Hospital, while in 3 further cases out of the remaining 1,363 the clinical symptoms suggested its presence. It is not impossible that endocarditis is more frequent than indicated by these figures.

3. *Pericarditis* is an unusual and unimportant complication of typhoid fever. Three instances only were noted in our 1,458 cases.

4. *Phlebitis* and venous thrombosis is a frequent complication of typhoid fever, occurring in over 2.6 per cent. of our cases. The onset occurs usually in the third week or later and is in most cases associated with fever, leucocytosis and local pain. The phlebitis is, in the great majority of cases, localized in vessels of the lower extremity, especially the left side, and is particularly frequent in the femoral veins (about one-half of our cases). Thrombosis of the iliac and femoral veins is always a serious complication, although the immediate dangers (gangrene, extension of the thrombus, pulmonary embolism) are not great, the after-results are often grave. In thrombosis of the femoral or iliac vein, the affected extremity is always considerably and permanently

enlarged, and there is usually more or less persisting disability (extensive varicosities often resulting in ulceration, marked weakness of the limb, and frequent cramps in the muscles, especially at night and after over-exertion).

5. *Arteritis* and arterial thrombosis is a more frequent complication of typhoid fever than is generally recognized. This complication appears to be especially common in the cerebral vessels, although it may occur in the extremities. The onset is most common in the third week or later and the attack is often ushered in by fever and leucocytosis. In the extremities arterial thrombosis is commonly followed by gangrene; in the central vessels by hemiplegia. Arteritis in the extremities may be associated with partial parietal thrombosis from which nearly complete recovery may occur.

6. A survey of our pathological material would suggest that typhoid fever may be a not infrequent cause of great arterio-sclerotic changes.

7. While the deleterious influence of typhoid fever upon the cardio-vascular systems is not as great as that of acute rheumatism, yet through the unfortunate frequency of the disease in this country it is probable that post-typhoid cardio-vascular defects are not uncommon.

ACCESSORY THYROID ON THE TONGUE.

Dr. Randolph Winlow, of Baltimore, concludes that "a moderate sized, rounded, elastic tumor, situated at the base of the tongue, and covered by smooth, normal or congested mucous membrane, not painful, with no metastasis, growing slowly and occurring usu-

ally in young women, is almost certainly a neoplasm consisting of thyroid tissues. These growths do not usually present any alarming symptoms, but should be removed when they give rise to discomfort or cause difficulty in deglutition or respiration."

Various methods have been used for their removal. The McBurney* method is from below, the incision extending from the hyoid bone to the chin in the medium line. The mylohyoid muscle is cut and geniohyoid and geniohyoglossus muscles on each side are pushed apart. In this manner the tumor is reached and enucleated through the incision. The mucous membrane covering the growth is removed with scissors through the wound. Catgut is used in closing the wound and in bringing the muscle together.

The method used by Oliver C. Smith,† of Hartford, was much more simple. He operated through the mouth, which in his case was entirely feasible.

Curtiss and Gaudier's‡ method is to draw the tongue out as far as possible and circle the neoplasm with a suture. This is drawn tight, incised and then the suture is tied.

DIFFICULTIES IN EXTERMINATING QUACKS.

It is often asked why the Michigan State Board of Examiners do not root out those guilty of illegal practice. Those convicted of offense against the law are certainly few. Many actual quacks obtained licenses under the old laws or no

law period. These retain their rights. But there are plenty others, which with impunity ply their trade. No doubt the fundamental difficulty lies in the fact that the people want just such service as these lawbreakers supply.

In New York City the Medical Society of the County of New York has convicted only about five hundred charlatans during the past five years. In explanation of this small number out of the existing thousands the society gives the following:

First—Lack of funds. There are two thousand members of the medical profession in the New York County Society. In order to make our work as effective as possible, the scientific features of our society have been curtailed in order to devote our funds to the suppression of the dangerous quack. For the last five years we have expended every available dollar for this purpose.

Second—Inherent difficulties in the nature of prosecutions. In rarely one case out of one hundred will the real victim of the charlatan consent to give evidence. They report their cases to the society, on condition that they be not called as witnesses. This is to avoid the exposure, humiliation and disgrace which in many instances would follow publicity. This necessitates the society procuring its own evidence, at great expense, against every charlatan it prosecuted.

Third—Radical defects in the medical law. We have no definition in this state as to what constitutes the practice of medicine. Until the legislature gives us a satisfactory definition, great uncertainty will exist. We have repeatedly asked the legislature for such a definition, and have been as often refused.

Fourth—Failure of the newspapers to co-operate. The modern charlatan could

**American Medicinc*, December, 1902.

†*N. Y. Medical Journal*, October 29, 1904.

‡*Revue hebdomadaire de Laryngologie, d'otologie et de rhinologie*, April 12, 1902.

not exist without publicity given his advertisements by the press. If our New York papers would refuse advertisements for the sale of drugs for a criminal purpose, illegal lying-in establishments and the distressing advertisements of the so-called specialists for diseases of men only, and the "consumption cure" frauds, it would not be difficult for the medical society, even with its present lack of funds, to rid the community of the chief offenders. These vicious advertising charlatans draw their recruits from innocent victims attracted by the advertisements unblushingly received by many New York newspapers.

DEATH OF D. W. C. WADE.

Dr. Wade died at the Flint Hospital, Friday, November 4th, aged sixty-nine. Several weeks previous he had been operated on for appendicitis, but complications prevented recovery.

Since 1862 he has practiced medicine at Holly and was the oldest physician in that region. He came into notice early in his professional life by his advocacy of hydrobromic acid and a working formula for its preparation. He loved surgery, and for a time maintained a private hospital for the convenience of his patients. He loved office practice rather than the typical rides of the country practitioner.

He was a forceful writer and many papers from his pen may be found in past volumes of the transactions of the Michigan State Medical Society, and in the medical journals. Of these it must be said that he always had something to say, said it and stopped. As a result many of his papers were abstracted by other medical journals, and so reached large audiences.

He loved his local society and presided at its meeting in Pontiac last September. The older members of the profession will recall his frequent attendance at the meetings of the Michigan State Medical Society and the American Medical Association, and his eager interest in all that promoted their prosperity. Through these associations he had a wide acquaintance among the best physicians, not only in his county but throughout Michigan and beyond its borders. His work as a physician and surgeon was typical of the best work done in small cities—honest, thorough, up-to-date.

All who knew him lament the loss of a true friend, a helpful co-worker in the betterment of mankind. Especially has the State Society lost the support of a strong and able advocate.

County Society News.

GENESEE COUNTY.

The annual meeting of the Genesee County Medical Society was held October 23, 1904, at Flint. Officers were elected as follows:

President, A. S. Wheelock, Goodrich.

Vice-president, G. V. Chamberlain, Flint.

Secretary-Treasurer, H. R. Niles, Flint.

Directors—For five years, J. C. Willson, Flint; for four years, Bela Cogshall, Flint; for three years, Annie Stevens Rundell, Flint; for two years, W. C. Kelly, Flint; for one year, Abram Goodfellow, Clio.

Three applicants were elected to membership as follows: Edmund Bachman, Fenton; Edward C. Rumer, Davison; H. C. Switzer, Gaines.

In accordance with the recommendation of the House of Delegates of the State Medical Society steps were taken to amend the by-laws and make a majority vote sufficient for election to membership instead of four-fifths majority, as heretofore.

A banquet was served in the Dryden cafe at 5:30.

At the evening session W. C. Kelly, of Flint, read a paper entitled "Uterine Curettage; Pathological Conditions Demanding it; Its Field of Usefulness; its Possible Dangers."

Howard W. Longyear, of Detroit, presented a paper on "Immediate and Late Closure of the Ruptured Perineum."

Both papers were freely discussed and Dr. Longyear's was admirably illustrated by drawings and charts.

A case of strangulated omental hernia and obstruction of the bowel was reported by Dr. Murray.

JACKSON COUNTY.

Jackson County Medical Society held its regular meeting at Jackson, October 4, 1904.

A resolution, introduced at the last session, to change the dates of the regular meetings to the first Thursday of March, June, September and December was adopted.

J. A. Porter, Brooklyn, read an article on "Some Observations on the Blood." Discussion by Wm. Lyon, Grass Lake, and G. R. Pray, Jackson.

George Dock, of Ann Arbor, then gave a talk on "The Diagnostic Examination of Blood, with Demonstrations."

Abstract:

As a general thing, the examination of the blood is one of the things to do in making out the diagnosis of a given case. The findings of the blood examination should be considered with the result of the other examinations. Therein comes the art of diagnosis—to apply the essential things. In all obscure diseases an examination of the blood is highly important and should not be neglected.

In all diseases of the blood, an examination is necessary in order that the diagnosis may be exact, and the treatment guided by definite facts. The first essential in blood examination is familiarity with appliances and with the blood.

The study of blood in various ways for a considerable time is the only way to acquire skill in that branch of diagnosis. No brilliancy of intellect will make up for want of study.

Without going into details of blood examination, let me cite some cardinal points. One of the most important things to recognize is the relative amount of hemoglobin.

The first practical methods for this purpose were Growers' and Fleischel's. Both expensive apparatus. Ehrlich noted one could make a

good guess from the color of the spot on the towel.

Tallquist applied this in a more accurate way by using a graduated scale of colors and using filter paper of uniform quality. The Tallquist scale answers all practical purposes. It gives not absolute but relative amount of hemoglobin. In a case of chlorosis with hemoglobin of 50 or 60 per cent. can see the improvement from week to week. One point to be mentioned—note the behavior of the drop of blood on the filter paper. Normal blood and blood of relatively low hemoglobin sink in evenly—form an even red spot on paper.

In blood of very low hemoglobin the corpuscles collect in the middle of the drop and there will be a light wet spot around this. Such a reading would give an error of 20 to 30 per cent. Not valueless, however, as this usually means hemoglobin less than 30 per cent. The Tallquist scale is convenient and cheap, and should have wide and general use.

Would encourage the use of Fleischel, Growers and others, however, by those who make special study of blood.

COUNTING OF BLOOD ESSENTIAL.

When counting blood every day one can estimate if a large or small reduction from fresh drop. It is necessary in exact work to use instrument for counting. Thoma-Zeiss combines good points of all others. Easy to use, simple in construction, and reasonable in price.

There is no other way to determine the number of cells. Hematokrit valueless as diagnostic aid. Gives volume but not number of cells. Useful for certain scientific studies of blood but does not replace counter. In use of counter practice absolutely essential. Rapid and accurate manipulation must become automatic.

MICROSCOPIC EXAMINATION.

This should always begin with the fresh drop. Take the drop between the slide and coverglass. If the drop is of the right size, it will run out at the side of the coverglass, coagulate and make a seal, which will prevent evaporation and allow of the examination of the drop three or four hours after securing the specimen. If the drop is not large enough, can smear about the edge of the coverglass with oil or vaseline. Examination of fresh drop useful in malaria when parasites will be found active.

Note from fresh drop:

1. Relative number of red corpuscles.

2. Relative number of leucocytes and kinds—eosinophiles—small lymphocytes. All the rest lumped together.

3. Relative amounts of fibrin.

This is much neglected at the present time. Surgeons use complicated instruments to determine amounts of fibrin, when can see it forming in fresh drop, and by studying many specimens, one learns to detect variations from the normal.

4. Notice blood plates. Of no present diagnostic value, but of most scientific interest. Systematic observation along this line would without doubt reveal something of value.

Study of stained blood of immense value. Diseases of the blood reached a scientific basis when we first learned to stain. Many beginners make cardinal mistake by seeking to stick to one stain. No single stain that will answer all purposes. Hematoxylin and eosin invaluable for many purposes, but we need a stain which stains the granules also; for this Wright's stain—easy to make and has few sources of error.

Stain must be properly made.

Told by testing upon blood.

Blood must be well spread and not too old.

Use distilled water for washing coverglass. Must have practice to get the proper time for using the stain.

A serious mistake to use anilin dyes only in the examination of blood. Use protoplasmic dyes as hematoxylin and eosin, for instance in pernicious anæmia show presence of nucleated reds and protoplasmic degeneration. These few facts are the essentials for the practical examination of blood.

PRACTICAL APPLICATION.

Histology is in advance of application. Eosinophilous granules increased in leukæmia and in cases of intestinal worms, for instance.

Mast-cells—Increase of value in the diagnosis of leukæmia. Can not go so far as to say they occur only in leukæmia. Can find them in normal blood. They are increased in leukæmia as an eosinophiles. In study of leukæmia, mast-cells have been too much neglected.

DIAGNOSTIC VALUE OF LEUCOCYTES.

The finding of an increase of leucocytes of great value. Sometimes do not absolutely require counting to determine this. When one finds as many leucocytes as red cells—as in specimen shown—we are forced to say leukæmia.

In differentiating between typhoid fever and malaria—when some quinine been given—and no parasites found. The absence of increase of leucocytes would be in favor of malaria. Absence of increase in pneumonia unfavorable symptom.

Examination of leucocytes of value in surgical diseases. The last word has not been said in this regard. Leucocytosis in relation to appendicitis as given by the speaker seven years ago at State Medical Society holds good. They are increased quite early in appendicitis. In an hour after primary ache, speaker has seen them increased two and a half or three times above normal. Not increased in some cases and these are the troublesome ones which even with operation often die. To find leucocytosis does not mean suppuration. May be increased up to 25,000 and no pus. May be 10,000 to 20,000 and a pint of pus around the appendix. If 30,000, pus is nearly always present. Of practical use in determining the treatment of appendicitis, whether surgical or not. If leucocytes go up—even though other symptoms not increasing—Dr. Dock usually says operate. Of wide bearing in all diseases of the peritoneum. Leucocytosis does not mean suppuration but an inflammation. Of value in cases of typhoid fever with perforations and in other forms of peritonitis carried up from the pelvis, and in obstruction of the bowel.

Dr. Dock then demonstrated a fresh drop preparation from a case of pernicious anæmia.

R. GRACE HENDRICK, Sec'y.

MARQUETTE COUNTY.

The fall meeting of the Marquette County Medical Society was held at Ishpeming, October 11, 1904. In point of attendance and in the interest displayed in the discussions, it was the most successful meeting which this society has yet held.

The staff of the Ishpeming Hospital presented their usual number of interesting clinical cases. The committee on credentials reported favorably on the application of Dr. Goodnow for membership in this society. A committee was appointed to negotiate with the trustees of the Peter White library relative to getting a suitable room in which to start a Marquette County Medical Library.

W. S. Picotte, of Ishpeming, presented a paper on "The Pioneer Physician."

Abstract:

Louis David Cyr, whose name recalls to memory the typical pioneer physician, was

born in Lower Canada, December 25, 1833. He graduated from the classic department of St. Hyacinth College in 1851. The following year he took up the study of medicine in the College of Physicians and Surgeons in Montreal, receiving his degree from that institution May, 1856. After practicing a few months at Lacolle, P. Q., and Sable Fork, N. Y., Dr. Cyr set out for the Lake Superior region. He finally settled in Negaunee. He was appointed surgeon to the Jackson, Palmer and Rolling Mills mines. He was also surgeon for the MacCumber, Bessemer and Cambria Iron companies. Realizing the need of a drug store he established one in Negaunee. This, with the addition of various lines, soon developed into a general store which for many years was considered the trading center for the mining district. The doctor also opened a photograph gallery, which was generally patronized. This was also followed by the addition of a stock of jewelry. With the growing demands of his business for more space he erected the first brick structure in the town. He was also a member of the L. A. Marsell & Co.'s dry goods establishment. In the early sixties he was appointed to the office of postmaster, which he held for eight to ten years. On January 31, 1865, Dr. Cyr was married to Miss Florence M. Watson, who died in Chicago December 10, 1886. Three daughters were born of this union, two of whom still survive. The doctor was a true sportsman and a firm lover of nature, taking great delight in hunting and fishing expeditions. He died of paralysis March 27, 1904.

Dr. Cyr was helpful by reason of the broad learning he possessed; sympathetic because of his keen understanding of humanity; attentive through his love for his profession and his untiring devotion to his patients. In his death we mourn the loss of an esteemed and beloved fellow.

F. A. Grawn, of Munising, presented a paper on "Veratrum Viride in Eclampsia," with a report of a case.

Abstract:

Veratrum Viride meets the indications in eclampsia perhaps better than any other remedy at our command. Parvin in the *Universal Medical Journal* (October, 1896) reported 100 cases of eclampsia treated with veratrum viride, 92 of which terminated in recovery.

I was called March 8, 1901, to see Mrs. H. W., who presented the following history: Age, 26; nationality, German. The family and per-

sonal history were good. She was seven months pregnant. She was suffering a slight hemorrhage without pain. There were no premonitory signs of eclampsia at this time. Thinking I had to deal with a partial separation of the placenta I left a prescription for the *F. E. viburnum pruni folium*, one teaspoonful to be given every three hours, and gave directions that patient should remain quietly in bed. Five hours later I was hastily summoned and found the patient in coma following a convulsion. I endeavored to control the convulsion by means of chloroform, chloral and bromides and to secure elimination by the use of croton oil, pilocarpine and normal salt solution enemas. Some six hours later the patient's condition was so little improved that consultation seemed advisable and Dr. G. A. Trueman was called. Induction of labor was decided upon. In about one hour the mother was delivered of a dead fetus. Convulsions kept recurring at irregular intervals. The pulse rate ranged from 140 to 150 per minute, with high tension. Eight minims of fluid extract of veratrum viride were given subcutaneously. In twenty minutes the pulse rate was 70 and did not again rise above 75. The pulse was regular and full. The other effects of the drug noticed soon after the injection was a free sweating and a marked increase in the excretion of the urine. No convulsion occurred after the administration of the veratrum viride and the patient made an uneventful recovery.

H. F. HORNBOGEN, Sec'y.

MECOSTA COUNTY.

The Mecosta County Medical Society held its annual meeting October 7, 1904.

All of the officers of the past year were re-elected.

R. O. Allen, of Remus, read a paper entitled "Dangerous Communicable Diseases: How Spread, Suggestions as to Their Restriction."

Abstract:

Our cities' mortality records disclose the fact that the most dangerous communicable diseases, named in the order of their frequency as causes of death, are pneumonia, consumption, typhoid fever, diphtheria, measles, influenza, whooping cough, scarlet fever and smallpox.

People should be educated through the health officials and practitioners of medicine as to the chief sources of danger in contracting contagious diseases.

First—They should be made to know that the dust from infected handkerchiefs, when the secretion has dried, often contains germs. They should be taught that handkerchiefs should under no circumstances be used after any secretion from the nose has been permitted to dry upon them.

Second—Contagion is liable to be spread by dust from floors or articles upon which infected sputum or saliva has been ejected.

Third—Contagion is liable to be spread by contact with the hands of persons who cough or spit into handkerchiefs, and then handle the infected material.

Fourth—Clothing may often contain the germs of a communicable disease.

Fifth—Books, pencils, chewing gum, drinking cups, etc., which are used in common, are often sources for the spread of contagious diseases.

Sixth—While typhoid fever is ordinarily caused through the medium of drinking water which has been contaminated with sewage or with leakings from privies, it is not improbable that the disease is sometimes spread by means of dust containing the germs of the disease.

It is a well-known fact that consumption is a communicable disease and that it is spread by the dust of dried sputum, by milk and by meat of tuberculous animals. Many people die of this yearly. It would seem that humanitarians, physicians, statesmen, philanthropists and sanitarians should all enlist themselves in an earnest, heroic endeavor to arrest this destroyer of human life, and the knowledge that consumption is preventable should go all over the land. Physicians and sanitary officers especially should disseminate information concerning the importance of preventative precautions wherever consumptive patients are found. The time must come when institutions for treating people suffering with this disease will be found in all the progressive cities and states in the country.

Pneumonia is spread by a germ which is found in the sputum of those who have the disease. Care should always be taken to destroy or disinfect all sputa of those who have pneumonia. It is very clear that measures which should be adopted for its restriction are isolation and disinfection.

Diphtheria is spread by the sputa, saliva and whatever comes from the throat and mouth of the patient and by the dust which results from the drying of such saliva, etc. It is well to remember that the germs of this disease sometimes remain in the throat for

weeks after the patient has apparently recovered. For the restriction and prevention of this disease isolation and disinfection are all important.

Scarlet fever is a dangerous contagious disease. The communicability of scarlet fever from person to person is a well-known fact. It is spread by the discharges from the nose, mouth, and throat and probably also by minute scabs which are thrown off from the surface of the body. The contagion of scarlet fever surpasses that of any other eruptive fever except smallpox in its tenacious attachment to objects and its portability to distant localities. The means of prevention are isolation, quarantine and disinfection.

Unmodified smallpox is one of the most contagious, fatal and loathsome of all the diseases to which the human family is subject. It is spread by means of particles given off from the surfaces of the body. That vaccination properly done will prevent almost without exception the contraction of smallpox is proven by the statistics of the world of today. The protective influence of vaccination has been established beyond dispute.

A. A. SPOOR, Sec'y.

SAGINAW COUNTY.

The Saginaw County Medical Society held its annual meeting October 11, 1904, at Saginaw. The following officers were elected:

President—W. L. Dickinson, Saginaw.

Vice-President—B. B. Rowe, Saginaw.

Secretary-Treasurer—J. N. Kemp, Saginaw.

Board of Directors—F. Smith, Saginaw; S. I. Small, Saginaw; F. W. McMeekin, Saginaw.

J. N. KEMP, Sec'y.

SANILAC COUNTY.

The regular quarterly meeting of the Sanilac County Medical Society was held at Brown City October 3, 1904, and proved one of the most instructive and entertaining gatherings held by that society this year. The paper read by Hal C. Wymann, of Detroit, on "Some Cases of Brain Surgery" was the feature of the day and highly appreciated by those present.

Abstract:

The same principles should govern in the preparation, operation and after-treatment in cases of brain surgery that apply in the surgery of serous membranes elsewhere. The

bowels should be freely opened before the operation is performed, unless the case happens to be one of recent injury, in which the symptoms are so threatening that there is not time to wait for a cathartic. The operation should always be performed as quickly as possible with minimum of manipulation of the brain substance. After the operation is finished and the process of repair is beginning, the bowels should be again freely opened. A vigorous elimination should be maintained in the after-treatment until convalescence is established. Brain surgery means such operations as are indicated for the relief of cerebral compression, no matter whether it is due to tumor, effusion, hemorrhage, depressed bone and inflammatory exudates. The symptoms by which the conditions mentioned can be recognized are in tumor of the brain, pain, headache more or less persistent, but rarely intermittent, generally in the same place, localized paralysis and paresis, generally involving or impairing some special sense and the movements of the eyeball. The probably distinctive feature of brain tumors, intra-cranial tumors, is their chronicity. The symptoms will generally be found to have existed too long to be accounted for by anything else. A headache due to tumor will continue long after one due to inflammation of the membranes of brain has progressed to fatal coma, and likewise, for example, are due to inter-cranial hemorrhage, will go from bad to worse more generally than when due to tumor. Convulsions sometimes confuse the symptom complex, as they are usually the result of irritation of cells which may be located remotely from the cause of the compression.

The Lapeer County Medical Society were the guests of the Sanilac Association and an extremely agreeable social time was had.

The doctors present were unanimous in their praise of the royal entertainment given them by the Brown City physicians, and will always look forward to the time when their next meeting will be held in that enterprising little village.

G. S. TWEEDIE, Sec'y.

SHIAWASSEE COUNTY.

The Shiawassee County Medical Society adopted the following resolution:

WHEREAS, The Medical Faculty of the University of Michigan are required to furnish gratuitous medical and surgical service, at the expense of the state, to all people of this or any other

state, regardless of their financial ability to pay for such service, and

WHEREAS, We believe that such policy encourages the spirit of mendicancy, is unjust and injurious to the medical profession, the medical student body, good citizens generally, and unpolitic and unbusiness-like in the extreme, therefore,

RESOLVED, That we ask the Michigan State Medical Society to request the Regents of Michigan University to reconsider their action in adopting such policy.

CHAS. SHICKLE, Sec'y.

SCHOOLCRAFT COUNTY.

The Schoolcraft County Medical Society held its annual meeting at Manistique October 3, 1904. The following officers were elected:

President—F. M. Sattler, of Manistique.

Vice-President—C. S. Layton, of Blaney.

Secretary-Treasurer—G. M. Livingston, of Manistique.

Board of Directors—F. H. Cole, of Manistique; Andrew Nelson, of Manistique, and Frank Rainie, of Manistique.

F. M. Sattler read a paper on "Lobar Pneumonia."

Abstract:

It is not my purpose tonight in presenting this paper to the members of the Schoolcraft County Medical Society to startle you with anything new or original, either in the pathology or treatment of one of the most prevalent and fatal diseases that the general practitioner is called upon to treat. It has been truthfully said "that pneumonia continues to be, in our country, one of the greatest medical problems of the day."

Lobar pneumonia is an acute, infectious disease caused by the pneumococcus. It is known to many of us that prolonged exposure to cold and sudden chilling of the body is followed by an attack of pneumonia. It is probable that this condition only prepares the tissues for the reception of the pneumococcus which is present in the throat and nasal passages of so many in health, only waiting for a favorable opportunity to develop. There are three periods in life in which this dreaded disease attacks its victims—childhood, young adult life, between the ages of twenty and thirty years, and old age. Dr. Loomis said "that nine-tenths of all those who die after the age of sixty-five die of pneumonia."

While the careful and painstaking physician must not place too much confidence and dependence in subjective or rational symptoms, yet in pneumonia there are some few cardinal symptoms that can nearly always be depended upon in making a diagnosis. Among these may be mentioned a pronounced chill, high temperature, painful and rapid respiration. Whenever any or all of these are present, the physician's attention should be attracted to the pleural cavity. In only a small per cent. are any prodromal symptoms present, such as nasal and pharyngeal catarrh, headache, epistaxis, shooting pains through the limbs and lumbar regions, etc. In a typical case, the patient is suddenly seized during the night with a severe chill, lasting usually nearly an hour; in a certain per cent. this chill is not present, at least not severe; only a prolonged attack of shivering and pain in affected side; and in still another class, not a large per cent., a hacking cough, an irregular and gradually increasing respiration are about the only objective symptoms noticeable. Generally after the initial chill, the face is flushed, the temperature high, from one hundred and three to one hundred and five degrees, Fahrenheit, skin dry and hot, pulse strong and full. A rapid pulse at the beginning indicates a severe and possible fatal case. I know of no disease that the physician is called upon to treat, where the prognosis depends so much upon the heart's action, as pneumonia.

During the stage of invasion there is a diminished expansion on the affected side; by auscultation over the pneumonic lung dry and sometimes moist rales are heard; also slight crepitation. As the case progresses a few days all these are intensified, accompanied with the characteristic sputum. Patient has a more anxious expression, the nostrils expand with each inspiration, the tongue is dry and heavily coated, color of lips dark, sometimes purple. This condition is not only due to a rapidly failing heart but also to a state of toxemia. As the case progresses after four, five or six days, delirium is usually present during the night.

This disease nearly always terminates by crisis. This occurs between the fifth and ninth day, the temperature suddenly drops below normal and all other symptoms are changed. This is usually followed by a long, natural sleep, during which the patient sweats profusely and gradually recovers. In those cases where resolution does not take place, the case goes on from bad to worse and finally succumbs to the great strain on the heart or to the toxemia. In some few cases the disease terminates gradually or by lysis. The mortality

ranges from fifteen to twenty-five per cent., the greatest mortality is in those who are past fifty years of age, and it is especially great among those who had led a dissipated life where the mortality is over fifty per cent.

That there is a wide range of opinion in the treatment of pneumonia in the medical profession, no one will deny; that there are but very few remedies known to the profession today that will favorably modify the ravages of disease all will admit.

Then the question arises, What is the conscientious physician to do? Is he to stand by the bedside of his patient, surrounded by anxious and perhaps frightened friends and relatives, and by his very actions and demeanor, cast still more gloom upon the scene by saying, but very little can be done? The older and more experience I get in practice, the more I believe in giving the patient fewer drugs and more confidence. We should endeavor to impress upon patient and family that all will be well.

It is to be regretted that we have not as yet an antitoxin to inject that neutralizes and causes these germs to become inactive like antitoxin does in diphtheria, but until we do get such a specific, we must eliminate the toxin as best we can, and this can only be done by opening all the channels of the excretory and secretory organs.

I would give my patient five or ten grains of calomel, followed by a few doses of Rochelle salts. This would not only eliminate some of the toxic material from the bowels but would relieve to some degree the pulmonary congestion as well. This would not only cause the patient to breathe easier, but would very decidedly relieve the overburdened heart. Of course, at this time, a few doses of aconite or veratrum would not be out of place, but I would endeavor to establish free perspiration by a pack carefully watched; and lastly, but by no means least, plenty of pure air must be obtained for the patient to breathe. In no other disease is plenty of pure air so essential as in pneumonia. When we stop to consider that one or two attendants in an average bedroom with the patient will soon consume the normal amount of oxygen unless there is plenty of ventilation; so, after the patient's alimentary tract has been well cleansed, the skin acting freely, and a plenteous amount of pure air in room, about all has been done that can be done.

I know of no diseases in which the heart needs more careful watching than in pneumonia. In some cases there is a cardiac toxemia present almost from the start. The rate of the pulse may not be so much increased, but the second sound

of heart is weakened, due to pulmonary obstruction and also lack of tenacity of heart muscles.

Personally, I believe in the old adage in every case of pneumonia, "that an ounce of prevention is worth pounds of cure," and so I give heart tonics early, strychnine and digitalis, beginning with small doses and carefully watching effects, withholding alcoholic stimulation until later. Digitalis is condemned by some, but the writer has never seen any bad results from its cautious use when the stomach is not irritable. An irritable stomach, in many cases, is brought about by injudicious feeding or over feeding. While the patient's strength must be sustained as much as possible, yet a little too much food is worse than none. An indiscriminate milk diet causes much trouble at times. I can recall such cases with distended bowels, diarrhoea, thickly coated tongue with delirium. There are enough germs in the patient's system without generating them in the alimentary tract by the wholesale. Give only small quantities of food and preferably such as have been predigested. Should any distension of bowels occur stop all foods for short time and give tablespoonful of castor oil, at same time flush bowels with enema of sterile water. After the case runs four or five days and heart begins to show signs of weakness, begin alcoholic stimulation, increase strychnine, and in some cases caffeine is useful. Good reports are given by some of adrenalin. Personally, I have had no experience with this last named drug in pneumonia, but it certainly has a place in treating pneumonia just previous to the crisis. Should there be pain and restlessness, or active delirium, small doses, one-sixteenth to one-eighth of a grain of morphine, hyperdermically administered quiets the patient more effectively than any other remedy, and at same time causing less disturbance to stomach and digestion. Inhalation of oxygen is highly recommended in later stages, but as a rule is used as a last resort.

In conclusion, let me mention one more remedial agent that ought to be used much more than it is, especially in such diseases as pneumonia, which is so early accompanied by general weakness and prostration, and that is normal salt solution. This acts beneficially in several ways: it supplies the wasted tissues with fluids, stimulates the action of kidneys and other secretory organs, and in a small degree, neutralizes the toxemia in the system. This fluid can be administered by rectum in eight to sixteen ounce doses several times daily, also subcutaneously in thick or fleshy parts, and in extreme cases may be administered intravene-

ously. Of course, the strictest antiseptic measures must be observed.

G. M. LIVINGSTON, Sec'y.

TUSCOLA COUNTY.

The Tuscola County Medical Society held its third annual meeting at Caro, October 13, 1904. Twenty-one physicians were present and three new members were received. One visitor. The committee on legislation made the following propositions which were adopted by the society and submitted to the Board of Supervisors for their approval:

"We would recommend that no set charges be fixed for medical services in general outside of smallpox and diphtheria. That the charges be the same for the county patient as for his neighbor who pays his own bill.

"That for all diphtheria patients \$1.00 be charged extra for the injection of antitoxine,—the county to furnish the antitoxine.

"That for smallpox patients not less than \$5.00 per visit be charged in addition to the regular mileage fee.

"That the minimum fee be charged for all surgical operations.

"That a duplicate account be kept of all services rendered, one copy to be left with the householder and one kept by the doctor.

"That when a doctor is called to attend a patient whose financial condition is such that it is certain that the doctor cannot collect his bill, the following course shall be taken: After the doctor's second visit he shall have the householder (or some other suitable person) notify the supervisor who, when he is satisfied that the case is one requiring aid from the county, shall issue the applicant two cards, one for the doctor, in charge and one to be kept in the home of the sick. At each visit the doctor shall enter the charge on the house-holder's card and upon his own card. After each entry on the house-holder's card the doctor shall sign his initials and after each entry on the doctor's card the householder, attendant or nurse shall sign his or her initials. In cases of contagious diseases the health officer shall sign the house-holder's card when he placards the premises. At the termination of the case the supervisor shall take up the householder's card which will be a bill to the county and shall be presented to the Board of Supervisors or the poor board for payment. When the bill is paid, the doctor shall turn in his card as a receipt.

"That the doctor shall be allowed payment for the first two visits and in case the cards be issued by the supervisor the doctor shall make an entry of them on both cards."

A. L. SEELEY,
C. W. CLARK,
W. C. GARVIN,
Committee.

The Board of Supervisors of Tuscola Co. rejected this proposition by a vote of 22 to 2.

The election of officers for the ensuing year resulted as follows:

President—B. D'Arcy, Caro.

Vice-President—R. L. King, Caro.

Secretary—W. C. Garvin, Millington.

Treasurer—B. C. Bradshaw, Mayville.

P. J. Livingstone exhibited two cases, one, necrosis of the tibia, the other, pulmonary and laryngeal tuberculosis which had made remarkable improvement under fresh air treatment plus the usual medical and diatetic measures.

P. J. Livingstone then gave the outgoing president's address in which he urged the country practitioner to undertake greater things rather than send all difficult cases to his city brothers.

W. C. GARVIN, Sec'y.

WAYNE COUNTY.

The Wayne County Medical Society held its regular general meeting October 17, 1904. Emil Amberg showed a specimen of the temporal bones with a crista temporalis instead of a linea temporalis.

Willis S. Anderson read a paper on "Infection Through the Tonsils."

Abstract:

The paper called attention to the lymphoid character of the tonsils which like similar structures, have a protective function.

Infection through the tonsils from various organisms may occur at any age, but is more frequently found in childhood. Infection by this route may be a factor in the causation of tuberculosis, rheumatism, endocarditis, pleurisy, acute nephritis, enlarged glands and other diseases. Lymphatic leukæmia may manifest itself primarily by tonsillar enlargement.

The importance of slow septic absorption through the crypts of the tonsils was mentioned and cases were cited. Thorough examination with a bent probe for diseased crypts was advised, and the various forms of treatment by the tonsil tome, gavano-cautery and snare were considered. Mention was made that the voice is

improved by the proper treatment of the tonsils. In conclusion the author stated that the keynote of the successful treatment of catarrhal affections of the nose and throat is to remove the causes which impair respiration and excite irritation. When this is done, the danger of infection through the naso-pharyngeal mucous membrane is reduced to the minimum.

The Wayne County Medical Society held its regular general meeting October 31, 1904. The following resolution was passed:

WHEREAS, The members of the medical profession, as citizens, are entitled to the same privileges which are enjoyed by other citizens, and

WHEREAS, The Board of Regents of the University of Michigan have ruled (Michigan Alumnus October, 1904, pp. 2 and 3) that the medical faculty of the University of Michigan must grant gratuitous medical and surgical treatment to everybody applying therefor, whether rich or poor, and

WHEREAS, Such a condition is contrary to all customs and rules governing the relation of one citizen to another, and

WHEREAS, Such a ruling deprives the medical citizens within the radius of the influence of the University of Michigan of part of their rights in an unwarranted manner, and is harmful to the state as well as to the medical profession; it is

RESOLVED, By the Wayne County Medical Society, Michigan, that the Board of Regents of the University of Michigan be asked to rescind its ruling concerning the indiscriminate free medical and surgical treatment of those who apply for treatment at the University clinics, and

RESOLVED, That the Board of Regents of the University of Michigan be asked to give a hearing to representatives of the Wayne County Medical Society.

W. J. STAPLETON, JR., Sec'y.

Meeting of the Surgical Section October 24, 1904.

Dr. P. M. Hickey Read a Paper on "Recent Progress in Radiography."

The writer shows that in careful hands there is no longer any danger to the patient of an X-Ray burn developing from diagnostic radiography. There is, however, grave danger to the operator from the accumulative effects of the ray. This danger can be obviated by the inclosure of the X-Ray tube in metal, or by the operator employing a metal screen to protect himself.

The use of the diaphragms, particularly the tubular variety, was pointed out, and a demon-

stration was given of the benefit of the new compression diaphragm of Dr. Albers Schönberg. This device marks a great advance in radiographic technique. It secures the exclusion of the vagrant rays, and compresses the part which at the same time it immobilizes. The technique of stereoscopic radiography was also demonstrated. This procedure has been much simplified by the introduction of the prism stereoscope of Caldwell, which obviates the former clumsy stereoscope of Wheatstone.

In treatment the writer pointed out the benefits to be derived from abandoning the use of shields in the treatment of malignant diseases, and also the better results which are to be obtained in deep seated lesions by keeping the target of the tube 12 to 15 inches from the body.

The discussion was opened by H. H. Cook, who spoke of the improvements in the construction of X-Ray coils and of the passing of the static machines. At the recent meeting of the American Roentgen Ray Association, held at St. Louis, a coil was exhibited which the maker dared not use for skiagraphic or therapeutic work on account of the strength of the secondary current generated. The importance of cutting off the secondary rays is to be emphasized and this is now partially accomplished by the use of a sheet of lead at the back of the photographic plate. The use of the compression diaphragm has the one disadvantage of limiting the field but it is a great advance, especially in the detection of renal and ureteral calculi. In some kidney cases however, tenderness may, to a certain extent, limit its usefulness. One great cause of trouble in the standardization of exposure is the impossibility of getting two tubes of equal penetration or the same penetration at different times from the same tube. A good tube is a luxury. Tubes vary greatly in focus and one which is good for photographic work may be very poor for therapeutic applications. For the latter work, a year or so ago, the tube distance employed was from 4 to 6 inches, now, except in the treatment of superficial conditions, a distance of from 12 to 15 inches is employed, thus avoiding the troublesome burns.

H. R. Varney. Radiography is becoming more and more a specialty, the rapid advances being made prohibiting the general practitioner from keeping in touch with the work. The great bug-bear in therapeutic work is the regulation of the dosage. The French have been able to directly measure the rays themselves and so are able to definitely fix the dosage. The coils made in America are not equal to those in use in England or on the continent, where the workers employ from 4 to 6 amperes

of current and obtain a radiograph of a hip in a fraction of a minute. To do such rapid work with the American coils, would require from 30 to 40 or more amperes. Roentgen ray treatment of certain skin diseases has come to stay, although the enthusiasm of a few years ago has somewhat lulled. Certain of the ulcerating, deforming, skin conditions, such as lupus, can be cured by the rays and by the rays alone.

W. E. Blodgett called attention to the fact that the compression diaphragm exhibited by Dr. Hickey is one of but three existing in the United States.

O. W. Owen. I was formerly most enthusiastic in the treatment of epithelioma and carcinoma with the X-Rays but am now convinced that most of it is a farce. I had one case of carcinoma of the breast which entirely disappeared under the X-Ray. Seven months later the patient died of cancer of the uterus. A man cured of carcinoma of the jaw, died 16 weeks later with cancer of the rectum. In fact I have had case after case where an internal carcinoma developed after a superficial cancer had been cured. The results of the X-Ray treatment are worse than those of the knife for the rays scatter the disease. Certain syphilitic conditions and lupus can be cured but cancer always returns.

P. M. Hickey. It may seem curious that the vacuum in a tube which is hermetically sealed can vary greatly from day to day but this is due to the influence of the platinum. There are a number of self-regulating tubes on the market, which though good at first, soon become useless. Dr. Owen's experience is certainly at variance with the observations of a host of the most scientific, truthful and careful men in this country and abroad. While the X-Ray treatment is to a certain extent in the hands of quacks and charlatans there are many eminent men who are getting cures in superficial cancers. Personally, I do not believe in the "scattering of cancers" and I would not like to have the impression go forth that such is the experience of many workers along this line.

BENJAMIN R. SCHENCK,
Sec'y Surgical Section.

WEXFORD COUNTY.

At the annual meeting of the Wexford County Medical Society held October 15, 1904, the following officers were elected: President, J. F. Doudna, Lake City; Vice-President, P. W. Pearsall, Kalaska; Secretary-Treasurer, Otto Ricker, Cadillac; Board of Directors, J. M. Wardell of Cadillac, C. E. Miller of Cadillac, and David Ralston of Cadillac.
O. L. RICKER, Sec'y.

Miscellaneous.

NEWS ITEMS.

Dr. Hugh McColl was given by the members of the Northeastern District and the Lapeer County Medical Societies a beautiful silver loving cup. Dr. Mortimer Willson, of Port Huron, who presented the cup said: I wish to show the members a specimen. This is not an acute case but a chronic one, that has been going on for years. We have consulted all the physicians in this part of the state and have agreed that it is an affection of the heart, and they also have agreed on a remedy, a silver loving cup to Dr. McColl. Other speeches were made by Dr. Kay, Dr. Jones, and Dr. Stewart. One face of cup has engraved, "For the love of the man," and another "Should auld acquaintance be forgot."

In Public Health Reports, September 30, 1904, published by the U. S. Public Health and Marine Hospital Service, is a full account of a scheme for the encouragement of inoculation for the restriction of the plague in Bombay, India, set forth in a letter signed by the chairman and secretary of the Bombay Chamber of Commerce. Modified to fit the conditions relative to vaccination for the prevention of smallpox, it would be somewhat as follows: The principal is that a reward be given to each person vaccinated who induces four other persons to be vaccinated. For a very small sum four coupons are issued to each person vaccinated; as soon as four other persons are vaccinated who present these four coupons, a reward is paid to the person who originally purchased the coupons. The reward paid is perhaps four times as much as was first received for the coupons. Each of the four persons vaccinated receives a set of four coupons, and the process thus continues in a geometrical ratio to widen its sphere of influence.

An item has been going the rounds of the press relative to the death of William Taylor, a child, at Port Huron, alleging that "The parents believe that his death was caused by vaccination." But an official report to the Secretary of the State Board of Health, clearly proves that the alleged belief had no foundation in fact. The report says that a short time after vaccination the child was taken sick with bowel trouble and had no med-

ical attendance, the parents being "Christian Scientists." After the death of the child, the coroner called in a reputable physician and found the vaccinated arm, aside from a small scar, was exactly the same as the other, and showed no sign of having been inflamed. The physician and the coroner came to the conclusion that the child had died of "entero-colitis"—inflammation of the bowels. It appears that the parents belong to a sect whose members do not believe in vaccination, nor in calling a physician, and undoubtedly would have been pleased to have had the death recorded as due to vaccination, especially as otherwise there is a suspicion as to the effect of the lack of proper medical attendance for the relief of the inflammation of the bowels.

Dr. Mordecai Price died at his Philadelphia home, October 29th, aged 60 years, of apoplexy. He was one of the noted abdominal surgeons of Philadelphia, and with his brother, Joseph, established a hospital for the care of female surgical diseases.

Arthur L. Holmes, of Detroit, was tendered a dinner at the Detroit Club in honor of his return from a European visit.

The fourth Pan-American Congress will be held in Panama Jan. 2-6, 1905. Those desiring to attend will do well to communicate with Dr. Ramon Guiteras, 75 W. 55th St., New York, N. Y. Those desiring can immediately thereafter attend the meeting of the American Public Health Association in Havana, Cuba.

On Sunday, October 23, more than a thousand persons gathered in Powers' Theater, Chicago, at a Memorial Service in honor of the late Dr. N. S. Davis. The meeting was presided over by Dr. Murphy, President of the Chicago Medical Society. The principal speakers were Bishop Spalding of Peoria, Ill., and Bishop Merrill of Chicago. A park has been named in his honor at Chicago.

The death rate from typhoid fever in Chicago is the lowest of any large city—presumably due to the drainage canal, which kept the sewerage away from the inlet pipes of the city water works. It

does not appear that St. Louis, Mo., has an increase in typhoid fever. Hence the infectious material must be destroyed en route between the two cities.

Dr. F. H. Wiggin gives the following formula for making a substitute for rubber gloves: Alcohol (96 per cent.) and ether each forty-nine and one-half ounces; celloidine one ounce; make a solution and add castor oil one-half ounce.

The Medical Colleges of California report largely increased classes with an unusually large number from the east.

CHANGE IN MEMBERSHIP.

(Oct. 15th to Nov. 15th.)

NEW MEMBERS.

C. D. Black, Lansing, Mich.
Wm. Blodget, Detroit, Mich.
A. Brown, Grand Ledge, Mich.
G. H. Bunch, Kearsarge, Mich.
Dr. Bush, Jennings, Mich.
G. M. Duning, Lansing, Mich.
H. W. Hewitt, Detroit, Mich.
K. M. Morris, Gagetown, Mich.
G. W. Orr, Lake Linden, Mich.
George Reid, Reese, Mich.
A. W. Truesdale, Shabbona, Mich.

CHANGE OF ADDRESS.

S. C. Burland, Chicago, Ill.
D. G. Castell, Albion, Mich.
E. D. Gardner, Clarke, La.
C. J. Hobbs, Galesburg, Mich.
A. J. Howell, Deford, Mich.
G. V. Oill, Detroit, Mich.
F. T. Roach, Newport, Mich.
N. J. Robbins, Negaunee, Mich.
D. W. Roos, Benton Harbor, Mich.
Mary Wetmore, Lansing, Mich.

DIED.

E. E. Bracey, Thompsonville, Mich.
A. Gasser, Hancock, Mich.
D. W. Wade, Holly, Mich.

BOOKS RECEIVED.

Essentials of Anatomy. By Charles B. Nancrede, M. D. Seventh Edition. W. B. Saunders & Co. 1904.

Essentials of Materia Medica and Prescription Writing. By Henry Morris, M. D. Sixth Edition. W. B. Saunders & Co. 1904.

Essentials of Bacteriology. By M. V. Ball, M. D. Fifth Edition. W. B. Saunders. 1904.

Essentials of Nervous Diseases and Insanity: Their Symptoms and Treatment. By John C. Shaw, M. D. Fourth Edition. W. B. Saunders & Co. 1904.

Blood Pressure. By L. F. Bishop, A. M., M. D. E. B. Treat & Co. 1904.

New Methods of Treatment. By Dr. Laumonier. Translated by H. W. Syers, A. M., M. D. W. T. Keener & Co. 1904.

Surgical Treatment of Bright's Disease. By G. M. Edebohls. Frank F. Lisiecki, Publisher. 1904.

The Medical Directory of New York, New Jersey and Connecticut. Published by The New York State Medical Association. 1904-5

A Philosophy of Therapeutics. By E. C. Price, M. D. Nunn & Co. 1904.

Quiz-Compend—Medical Latin. By W. T. W. Clair, A. M. P. Blakiston's Son & Co. 1904.

International Clinics, vol iii. Fourteenth Series. J. B. Lippincott Co., Philadelphia. 1904.

General Catalogue of Medical Books. P. Blakiston's Son & Co., Philadelphia. 1904.

The Physicians Visiting List. P. Blakiston's Son & Co. 1905.

The Perpetual Visiting and Pocket Reference Book. Dios Chemical Co., St. Louis, 1904.

Transactions of Iowa State Medical Society. 1904.

Transactions of the Maine Medical Association. 1904.

Proceedings of Connecticut Medical Society. 1904.

Transactions of West Virginia State Medical Association. 1904.

Thirteenth Annual Report Michigan State Board of Health. 1902.

Correspondence.

SECRETARY.—Yours informing me of the honor conferred upon me by the Michigan State Medical Society is at hand. It was more than I expected and I am not only proud but grateful. It is duly appreciated, coming as it does from the M. S. M. S. and at my time of life. Hoping that health and circumstances will permit me to be with you hereafter as long as I live—and again thanking you,

I am respectfully,

L. W. BLISS.

Saginaw, Oct. 24, 1904.

Pneumococcus Endocarditis.—Conclusions.

1. Endocarditis complicates pneumonia in about 1 per cent. of all cases and in 5 per cent. of fatal cases.
2. Endocarditis due to the pneumococcus makes 25 per cent. of all cases of bacterial endocarditis.
3. The pneumococcus may cause endocarditis of any degree of intensity, but in over three-quarters of the cases it is of the severe or so-called malignant type.
4. The exudate is usually massive, but there is less disposition to ulceration and perforation of the valves than in endocarditis due to the streptococci and staphylococci.
5. The endocarditis complicating pneumonia is almost always due to the pneumococcus, although it may be due to other bacteria.
6. Pneumococcus endocarditis is much more often left than right-sided, but involvement of the tricuspid and pulmonary valves occurs about four times as often as it does with endocarditis in general.
7. The pneumococcus attacks the aortic valves more often than the mitral and relatively twice as often as the other organisms commonly causing endocarditis.
8. The pneumococcus attacks the mitral valve relatively only half as often as the other organisms, while it attacks the tricuspid about twenty times as often.
9. Infarcts occur in about one-half the cases.
10. Meningitis complicates the pneumococcus endocarditis in about 60 per cent. of the cases.
11. Pneumococcus endocarditis is relatively twice as common in females as in males.
12. Endocarditis complicates pneumonia much more frequently after 30 years of age than before.
13. An old heart lesion favors the development of pneumococcus endocarditis.
14. The clinical picture of pneumococcus endocarditis does not differ from that due to any acute endocarditis.
15. The endocarditis may develop before, during or after the pulmonary involvement, but the pneumococci may infect the endocardium without there being at any time any involvement of the lungs.
16. A considerable number of the cases show a period of normal temperature between the fever due to the pneumonia and that due to the endocarditis.
17. This afebrile period is rarely longer than a week and is usually only three or four days.
18. The endocarditis may be afebrile.
19. The duration varies from a few days up to months.
20. The pulse is usually rapid and irritable, but bradycardia is more frequent than in other forms of acute endocarditis.
21. Subjective symptoms referable to the heart are usually absent, except in cases where there is an old heart lesion, when they are due to the old rather than the fresh endocarditis.
22. Physical signs of the endocarditis are often entirely lacking.
23. Signs and symptoms from other organs are either those common to infectious processes or are due to infarcts, in which case they vary with the size and site of the infarct.
24. Leucocytosis is frequently absent.
25. Blood culture, carefully and perhaps frequently repeated, will show the pneumococci.
26. The diagnosis is difficult, impossible, in fact, in cases in which the endocarditis develops during the course of the pneumonia and ends rapidly in death.
27. Endocarditis should always be suspected in a case of pneumonia which is followed by an irregular temperature not sufficiently accounted for by some other complication, as empyema.
28. The prognosis is extremely grave, for 60 per cent. of the cases have a complicating meningitis, but it is probable that the percentage of recovery is higher than the reports so far published would lead one to infer.
29. The treatment consists merely in rest, absolute rest, with good, supporting food and stimulation as required.—(*The American Journal of the Medical Sciences*, November, 1904. H. R. PREBLE.)

Book Notices.

Under the Charge of

RAY CONNOR.

A SYSTEM OF PRACTICAL SURGERY. By Drs. E. von Bergmann, of Berlin; P. von Bruns, of Tübingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M. D. Complete work now ready, in five imperial octavo volumes, containing 4220 pages, 1976 engravings and 102 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Volume V just ready. 789 pages, 354 engravings, 23 plates. Lea Brothers & Co., Philadelphia and New York. 1904.

The last volume of this encyclopedic work serves to round out the system in fitting style. Affections of the pelvis are first taken and considered briefly. The anus and rectum are then discussed rather concisely. The bulk of the volume is given up to the urinary system which is fully and ably treated. The methods of investigation are gone into at some length and the modern methods of ureteral catheterization and segregation well described. Cryoscopy is fully discussed and Beckmann's apparatus clearly diagramed. Prof. Nitze contributes the article on the bladder and prostate and the volume closes with adequate chapters on the urethra, penis and other male organs of generation.

The illustrations and general appearance of this volume are similar to the general high standard of the system as a whole. A general index follows the index for the volume, adding an indispensable feature. The publishers have more than made good their promises in regard to this work which covers better than any other work in English surgery as it is to-day. The American editors have taken the opportunity to add certain important contributions of American surgeons which as yet have not received full recognition abroad.

PHYSIOLOGICAL CHEMISTRY. For Students and Practitioners of Medicine. By Charles E. Simon, M. D. New (2d) edition. Revised and enlarged. Octavo, 500 pages. Cloth, \$3.25 net. Lea Brothers & Co., Philadelphia and New York. 1904.

The speedy call for a second edition of this work shows the appreciation which it has met at the hands of the medical public. The book is adapted to the wants of the medical student and the physician who has been unable to devote the study to the subject which it merits, as well as for him who needs a handy book of reference to refresh his mind and bring his knowledge up-to-date.

Food and their constituents, albumins, carbohydrates and fats are first taken up. Then

ferments and digestive fluids are considered and the products of digestion. In conclusion, the chemistry of feces, urine, blood, muscle tissue, etc., is gone into in detail. The author has utilized this opportunity to rewrite the chapters on the albumins, nitrogenous katabolism, gastric and tryptic digestion and has added in the appendix laboratory exercises which may be carried out as far as one's facilities permit.

The style is clean and the press work up to the usual standard of these publishers. The book is practically without illustrations. A full index adds to the value of the work for reference.

DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M. D. In a series of eighty-two lectures. Complete in one volume. 1024 pages. Illustrated. Half morocco, \$6.00; cloth, \$5.00. E. B. Treat & Co., New York City. 1904.

This work presents the subject in accordance with the needs of the general practitioner. The old and tried methods of diagnosis and treatment are given in addition to the most recent. In the effort to cover in one volume such a broad subject much must of necessity be omitted. The theoretical discussion of obscure and debatable points, both in pathology and treatment, has been largely omitted, as well as historic observations and references to the bibliography.

The importance of the subject to the general practitioner can hardly be overestimated unless he be prepared to turn over this large class of patients entirely to the stomach specialist. The expediency of the various means of diagnosis as well as their scientific value is gone into and many practical points given as to the handling of this kind of cases.

Under part one is considered the anatomy and physiology of the digestive tract. No exhaustive treatise is given and the reader is referred to well known works for further details if desired. Methods of examination are considered in part two and the well-known methods given, as well as that particular one which has best met the requirements of the author. The best method of passing the stomach tube and obtaining test meals is described in detail so that even one who has never seen the manipulation could hardly fail to succeed in the attempt. The section on treatment considers carefully the subject of foods and diets

first and then the value of active and passive forms of exercise, the various forms of electricity, vibration, drugs, etc.

The bulk of the book is given over to the gastro-intestinal clinic, which considers in order the various disorders of the digestive tract and their relations to other diseases. The style is clear and concise. The print is good and the wide margins make easy reading. An index closes the volume which should prove of value to a large circle of readers.

A TEXT-BOOK OF CLINICAL DIAGNOSIS. By Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. Napoleon Boston, A. M., M. D. Octavo volume of 547 pages, with 320 illustrations, many of them in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$4.00 net; sheep or half morocco, \$5.00 net.

The multiplying of works on laboratory methods as applied to clinical diagnosis bears eloquent testimony to the interest of the present generation of physicians in these things. The book before us attempts to do no more than furnish a working introduction to the department of medicine under consideration.

The author in his introduction gives some useful points for the beginner on the use and care of the microscope. The blood and urine are then taken up comparatively fully and over half the entire book is given over to them. The gastric contents, feces and sputum are taken up briefly and concisely. The secretions from the mouth, nose, eye, ear and genital organs have each a short section. Under the section on serous exudates a brief mention is made of Jousset's Inoscope for detecting more easily the tubercle bacillus.

The parasites of the skin are described and pictured as are the ordinary parasites of the intestinal tract. The book aims at the practical and such things as bear on this are brought forward. At the same time the recent advances have not been forgotten but have been incorporated in the text. The illustrations are very profuse and add greatly to the book. A complete index renders the contents accessible for reference.

DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden. Translated under the direction of Boardman Reed, M. D. Part IV. The Acid Auto-intoxications. Small 8 vo., 80 pages, cloth, 50c. Part V. Concerning the Effects of Saline Waters (Kissingen, Homburg) on Metabolism. Small 8 vo., 92 pages, cloth, 75c. E. B. Treat & Co., New York City. 1904.

These delightful little essays make very stimulating and enjoyable reading. Part four is given over to a consideration of acid auto-intoxications, which is a much more practical subject than the title suggests. It deals chiefly with the acetone bodies, their sources and relationships to diabetes and diabetic coma. Some very radical suggestions are made as to therapy.

Part five is devoted to the effects of saline waters on metabolism. The study of these effects has been carried out by the authors not on animals or even on healthy human subjects, but on patients such as are accustomed

to frequent the European spas where these waters are used. The records of these cases are given in brief and the conclusions deduced therefrom.

The water was found to act very differently in quite opposite conditions. In health the saline waters seem to diminish the secretion of hydrochloric acid, while in gastric catarrh, with a low acidity, it increases the acid. On the other hand, in cases of hyperacidity, it seems to act well in reducing the total acidity and relieving the symptoms.

The folly of the rigid diets of some spas is pointed out. Many forbid the use of fats in all cases while undergoing a drinking cure. Van Noorden, on the contrary, has found the use of fats very beneficial in many cases and not by any means absolutely contraindicated while using the water. The effect on the proteid metabolism does not seem to be great, either in health or disease. The excretion of uric acid on the other hand, while not affected in most patients, is rather markedly increased in the gouty.

The influence of the rigid diet, regular habits, and so forth, in the treatment of these cases is conceded freely, but the importance of the saline waters is insisted upon by the author.

The little books are gotten out in the same attractive style as their predecessors and are very convenient to read and digest as opportunity may offer.

HAND-BOOK OF THE ANATOMY AND DISEASES OF THE EYE AND EAR. For Students and Practitioners. By D. B. St. John Roosa, M. D., LL. D., and A. Edward Davis, A. M., M. D. 300 pages, square, 12 mo. Price, extra cloth, \$1.00 net. F. A. Davis Company, Philadelphia. 1904.

This little hand-book contains a surprising amount of information in very compact and readable shape. It aims to put things in such a compass that they can be utilized by the busy practitioner attending a large clinic for a few weeks and unable by himself to get, what he sees, into its proper relationship. The most recent views are given and those methods of procedure which have met the approval of the authors.

The style is clean and didactic. No illustrations are used to elucidate the text, but the book makes a convenient and attractive little volume. Both the eye and ear seem as well covered as is possible in such limited space.

PRACTICAL ELECTRO-THERAPEUTICS. By Franklin B. Gottschalk, M. D. 325 pages, 200 illustrations. Cloth, \$3.50. T. Eisele, Chicago. 1904.

This book deals with electricity in its various forms as applied to medicine. The first portion of the work treats of the forms of electricity, such as galvanism, faradism, static electricity, X-rays, etc. Under this heading a brief section is devoted to vibratory stimulation.

In the second part is discussed the application of the varied forms of electricity to the diseases in which they are useful. The book is unusually well illustrated and covers a large and interesting field. It is marred, however, in places by careless proof-reading, which will doubtless be corrected in later editions.

Progress of Medical Science.

MEDICINE.

Under the charge of

HARRISON D. JENKS.

Rheumatism, Chorea and Endocarditis.—In a very interesting paper on some experiments made by Lewis and Longcope in the Pennsylvania Hospital from blood taken from a patient suffering with rheumatism, chorea and endocarditis they were able to isolate a streptococcus. The close association of chorea and rheumatism has been noted for years, and there have been several instances where the intravenous inoculation of diplococci from rheumatic patients has produced chorea. But unfortunately in many of the experiments several types of bacteria have been found staphylococci, streptococci, and even colon bacilli. Rarely, however, have these inoculations reproduced arthritis or endocarditis. In 1899 Wasserman secured a diplococcus which produced both arthritis and endocarditis. Since then several other observers have obtained what they believe to be the same micro-organism. Poynton and Paine have in a series of twenty-two cases of rheumatic fever obtained the same organism as Wasserman and from it they were able to produce monoarthritis or polyarthritis but only occasionally endocarditis, pericarditis or pleurisy. Little or no work has been done in this country on the subject. Lewis and Longcope report a fatal case of a girl eight years old who presented rheumatism, chorea and endocarditis. In August, 1903, she was taken with rheumatic symptoms, these rapidly improved but in about a month choreic movements appeared and these were so violent as to require the bed to be padded. On October 15 there were few choreiform movements and she was unable to move hand or foot voluntarily. No heart trouble was detected. Suddenly the temperature which had been normal rose to 107° and the movements became violent. On the 17th a septolic murmur was detected early in the morning and became more pronounced until toward evening when she died.

Cultures from blood taken from the median basilic vein gave a micrococcus which later proved to be identical with Wasserman's organism. This germ produced in rabbits arthritis of moderate virulency but one rarely fatal. The streptococcus can be recorded with regularity from the affected points. Morphologically and biologically this germ does not differ from the ordinary streptococcus pyogenes. Yet it seems to have a great liking for joints, heart valves and serous membranes. The ordinary streptococcus pyogenes when injected

into rabbits produces septicæmia but not the joint lesions that the rheumatic streptococcus does. The authors, therefore, conclude that the streptococcus found in this case is the same as those described by Wasserman, Meyer, Poynton, Paine and Walker and considered by the last three observers as the specific cause of rheumatic fever. (*The American Journal of the Medical Sciences*, October, 1904. LEWIS AND LONGCOPE.)

Blood in the Fæces.—L. Joachim has investigated the presence of blood in the fæces in a large number of cases. Blood was not found in the stools in diseases when it was not likely to occur, but in nose bleed it was always found. Yet in hæmoptysis it was not, also none in pneumonia. In cancer of the stomach it was always found. Gastric ulcer presented it in nearly every case and in larger amounts than in cancer. Typhoid fever rarely showed it before the onset of intestinal hemorrhage. No blood was found in gastritis, gastroptosis, appendicitis. In passive congestion, especially when due to heart disturbances blood was constant. Hemorrhagic pancreatitis also showed blood. Care must be taken to exclude hemorrhoids, menstruation, bleeding from nose or gums, hæmoptysis and food containing blood. It may be useful in some cases to detect minute traces of blood in the fæces as a help in diagnosis. (*Berl. Klin. Wochenschrift*, 1904, page 466.)

Veneral Warts—(CONCLUSIONS).

1. Veneral warts are hypertrophies rather than tumors. They are inflammatory—due to irritation.

2. Sixty per cent. are venereal and are due to acid, irritating discharge. The remaining forty per cent. are non-venereal and are due to uncleanness and maceration of their seat alone.

3. When small, the best treatment is palliative; when large, they are best removed surgically. Even their recurrences are frequent.

4. The term "papillofibroma" most correctly defines these interesting pathological new formations.

5. The question as to whether or not venereal warts are infectious or contagious is, as yet, purely a speculative one. (*The American Journal of the Medical Sciences*, November, 1904. ROHRER.)

SURGERY.

Under the charge of

MAX BALLIN.

Unique Dislocation of Testicle.—A man 40 years old was run over by the wheel of a heavy wagon. He was sent to a hospital and showed signs of a severe contusion of the left inguinal region and the left hip. The left part of the scrotum was drawn upward (funnel-shaped). The left testicle and cord could not be found. Both hip joints could be moved normally, only the flexion in the left hip joint was painful. Thinking that the testicle was dislocated into the abdominal wall, the author incised the left inguinal region but did not find the organ there. The cord went from the inguinal canal backward between the muscles and on flexing the leg in the hip-joint, the cord was seen to enter into a rent of the synovial membrane of the hip-joint. After extreme flexion and outward rotation the author succeeded in liberating the testicle from the joint.

The testicle was so flattened and bruised that it had to be removed, the hip-joint was cleansed and fixed by splints. Recovery was uneventful and the function of the hip-joint was not interfered with.

Jurinka explains the occurrence of this rare accident as follows: By the pressure of the wheel, the testicle was first dislocated into the region of the pubic bone, at the same time a forward dislocation of the femur in the hip-joint occurred. This dislocation of the femur reduced itself and the femur head on its way back, took the testicle along into the acetabulum.—*Centralblatt fuer Chirurgie*, 1904, No. 38. JURINKA.)

Treatment of Chronic Colitis, Based on Surgical Experiences.—Chronic colitis (mucous colitis) is a very frequent complaint, characterized by irregularity of the bowels, constipation changing with diarrhoea, mucus discharges and colicky pains along the colon. The disease is generally considered to be of nervous origin. The author believes that the peculiar nervousness of these patients is not the cause, but the consequence of the colitis. In every case the cause of the colitis ought to be looked for. It is mostly a chronic inflammation of appendix, gall-bladder, or the female sexual organs. In 500 cases of colitis Beck found chronic appendicitis 120 times, disease of the gall-bladder 46 times, diseases of the stomach 44 times, diseases of the uterine adnexa 110 times, tuberculosis of the peri-

teneum 7 times, tuberculosis of the mesenteric glands once, enteroptosis 66 times, carcinoma of the colon 31 times, tuberculosis of the colon 8 times, actinomycosis of the colon twice. In the remaining 65 cases diffuse gastroenteritis, colitis after typhoid, lead, alcohol, nicotine, cirrhosis of the liver, nephritis, sexual excesses, prostatitis (gonorrhoea) were found as exciting causes.

The treatment of chronic colitis should aim to remove the cause in each individual case. In stubborn cases where hygienic and dietetic treatment has failed, and none of the local conditions mentioned can be found as the cause of the sickness, entero-anastomosis between the lowest part of the ileum and the sigmoid flexure, can be recommended. Beck performed this operation 6 times with one fatality. The other five cases were cured of their symptoms and the elimination of the whole colon did not seem to cause any disturbance in digestive process.—(*Archiv. fuer Klinische Chirurgie*, Vol. 74, Part 1. B. VON BECK.)

The Use of Electricity in Skin-Grafting.—High frequency discharges will clot blood, acting as a hemostat and will coagulate serum-albumen. Rushmore uses this quality of the high frequency current in skin-grafting in the following way: He renders the granulating surface sterile; cures it thoroughly; and, while it is still oozing, places the grafts of any form desired in position on the surface and bathed in blood; then the high frequency discharge is applied from a pointed electrode at about one-quarter inch distance over the entire surface till clotting is firm and the grafts are fixed in a dry surface. Dressing consists of 3 per cent. carbolized vaseline and sterile gauze. It is renewed at the end of the third day. Repair follows in the usual way but takes a short course.—(*Annals of Surgery*, September, 1904. RUSHMORE.)

The Bridging of Nerve Defects.—Neuroplasty and implantation (anastomosis) are always available resources and for the present it would seem that they should be preferred. Resection of bone may be advisable in selected cases. Transplantation of foreign grafts should be abandoned. It is hardly necessary to say that prognosis in an individual case should always be guarded and that repeated operations may be necessary.—(*Annals of Surgery*, November, 1904. C. A. POURRS.)

GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

Operative Treatment of Retropositio uteri.—

A recent contribution to the subject of the operative treatment of retroversion of the uterus, by F. H. Martin, is important, for it gives not merely the technic of the so-called autoplasmic operation but also an excellent and unbiased summary of the subject. No one operation is to be employed as a routine. The points which Martin makes are as follows:

(1) A very small number of simple retroversions may be cured by correcting an anterior position of the cervix, by shortening the anterior and lengthening the posterior vaginal wall.

(2) The Alexander operation is safe, rational and satisfactory, in cases of persistent retroversion, in which there are no pelvic complications.

(3) In slight adhesions of the fundus, with little other pathology, the adhesions may be separated and the utero-sacral ligaments shortened through a posterior vaginal incision, or

(4) An anterior vaginal incision may be made and the vaginal-round ligament operation done. Never a vaginal fixation.

(5) When an Alexander operation is contraindicated it should become a routine procedure to explore the peritoneal cavity through a short incision.

(6) Some form of simple superficial suspension should be adopted when sterility is rendered imperative or when the patient has passed the menopause.

(7) When the treatment of complicating conditions requires a laparotomy but leaves the woman with child-bearing possibilities a superficial suspension or an intraperitoneal shortening of the round ligaments should be employed.

(8) When extensive denudations of the peritoneum result or when repair work is liable to cause dystocia, the tubes should be amputated and the uterus suspended.

(9) In performing a suspension or an Alexander operation one important element of danger can be eliminated by substituting for dead permanent sutures the autoplasmic sutures.

Martin's operation for suspension is as follows:—A strip of peritoneum, one-third of an inch wide, is severed with scissors from one side of the wound. The upper end of this strip is cut from its peritoneal attachment, thus leaving a ribbon of peritoneum attached at its lower

end beneath the lower angle of the wound. The uterus is brought forward and by means of a ligature carrier, this strip of peritoneum is introduced beneath the serous covering of the uterus, just posterior to its crest, thus suspending the uterus. A temporary cat gut suture also holds the uterus forward. The upper, free end of the peritoneal strip is then included in the running cat gut suture which unites the peritoneum.

Martin has examined over 300 cases operated upon in this way and has always found the results excellent. Six pregnancies occurred in the series and no trouble was experienced. There were no symptoms of tugging on the abdominal wall and the servix was normal in location.—(*Chicago Medical Recorder*, Sept., 1904.)

Injection Treatment of Internal Hemorrhoids.—C. F. Martin speaks of the comparatively excellent results obtained by quacks and charlatans in the injection treatment of hemorrhoids, despite the unscientific and unsurgical methods employed. Any other surgical treatment of the condition in such inexperienced hands would have produced a larger mortality and a much longer list of accidents. The views of Kelsey, Cripps and Gant are given; all use the operation in a certain limited class of cases. Strangely enough no attempt has ever been made to perfect the method beyond the use of antiseptics.

Martin's technic is as follows.—Divulge the sphincters under nitrous oxide; apply hot compresses for five minutes; give patient a rest of from four to seven days; place in Sims position; insert conical speculum with obturator; remove obturator; select largest hemorrhoid for treatment; let patient prolapse this into speculum by coughing; swab off surface with antiseptic solution; inject from 7 to 10 m. of Phenol Boeuf (phenol sodique) into the center of the pile; withdraw the speculum before removing the needle; insert a suppository of ichthyol. Inject but one pile at a treatment, and make the treatments from 4 to 7 days apart. Insist upon a daily evacuation of the bowels.

The writer has now treated about 350 patients by this method and has had uniformly good results.

External hemorrhoids are never to be treated in this way.—(*American Medicine*, August 27, 1903.)

PHARMACOLOGY AND THERAPEUTICS.

Under the Charge of

W. F. WILSON, JR.

The Present State of Serum-Therapeutics.

There are two kinds of anti-serums: the one antitoxic neutralizing the toxic products of a micro-organism, the other anti-microbic, destroying the organism itself or inhibiting its action. Similarly the diseases in which these remedies are employed are of two kinds: the intoxications, of which diphtheria is a familiar example, and the infections, of which plague is typical. Concerning the anti-serums of staphylococcal infection, Malta fever and relapsing fever, we may certainly dismiss them for lack of evidence to their value. With regard to tuberculosis, the originators of the anti-serums claim good results but they have not been duplicated in the hands of others. Acute pneumonia is another disease the serum therapy of which is disappointing. As to anthrax, Sclavo, of Vienna, by combining a method of combined active and passive immunization in asses, has produced a serum which has yielded fair results both in man and animal.

Concerning diphtheria, the proofs of the value of the antitoxin serum are conclusive. In the fever hospitals of the Metropolitan Asylums Board, hundreds of cases of diphtheria have been treated annually for 16 years. In the year 1888, the case mortality was 59.3 per cent., while in 1903, 89.2 per cent. of the patients receiving antitoxin, the case mortality was 9.6 per cent. Of 765 cases of tracheotomy previously to 1894, for primary diphtheria, only 227 recovered or 29.6 per cent., while from the introduction of anti-toxin up to 1902, of 2,363 cases of similar tracheotomy 1,487 have recovered or 62.9 per cent. Also, of 93 cases of intubation for primary diphtheria from 1898 to 1902, there were 75 recoveries or 80.6 per cent. Now we can also say concerning paralysis, that if the patient is brought under treatment sufficiently early, his chances of getting it are very slight, but if he does it can be only to a very limited and harmless extent. In diphtheria, then, only one conclusion can be drawn—namely, that the serum treatment has been extremely successful.

TETANUS.—The experimental evidence in favor of the value of tetanus antitoxin is very strong. But, when we come to consider the treatment as applied to the disease in the human being, the results are not so striking as those we have seen to occur in diphtheria. The best authorities put the case mortality of acute tetanus at from 80 per

cent. to 90 per cent. and of chronic tetanus from 40 to 50 per cent. A considerable number of cases treated with antitoxin give a mortality of from 34 to 45 per cent. Every case of tetanus should be treated with antitoxin.

HAY FEVER.—During the past two years Dunbar, of Hamburg, has succeeded in extracting from the pollen chiefly of rye and maize, a toxic albuminous substance. According to Kamman, this proteid is of so high a degree of toxicity that 1-40000 mg. in solution applied to conjunctival sac of a person subject to hay fever will cause itching and redness lasting for some hours. The toxin when injected subcutaneously into a susceptible person produces the local and general symptoms of hay fever. By injecting this toxin into young thoroughbred horses, Dunbar rendered their serum anti-toxic. Of 222 cases of European hay fever collected by Glegg, 57 per cent. were cured, 32 per cent. were relieved, and 11 per cent. were unaffected, while of 63 cases of American hay fever 70 per cent. were cured, 19 were relieved, and 11 received no benefit. In America, the most frequent cause of hay fever is the pollen of golden rod and wormwood. A perusal of detailed accounts of these cases certainly carries the conviction that in "pollanten" as it has been termed by Dunbar, we have the most efficacious remedy that has been brought forward.

PLAGUE.—The evidence so far as it goes is certainly in favor of the serum treatment.

TYPHOID FEVER.—The figures given are encouraging, and afford grounds for hope and further inquiry.

ANTI-STREPTOCOCCUS SERUM.—As far as clinical evidence goes, it appears that in cases of erysipelas and phlegmenous inflammations of the skin and mucous membranes, antistreptococcus serum is beneficial, but that in other septic conditions its value is doubtful. Considering the treatment of scarlet fever, at the present day it is a disease with so low a mortality and of so mild a character, it is very difficult to draw conclusions accurately.

The dose of antitoxin in diphtheria is from 2000 units to not exceeding 15000 units within 24 hours of the commencement of the treatment, either in one dose or two or three at intervals of from 2 to 3 hours.—(GOODALL, *British Med. Jour.*, Oct. 8th, 1904).

DERMATOLOGY AND SYPHILIS.

Under the Charge of

A. P. BIDDLE.

Headache with Syphilis.—Headache is a common symptom with syphilitic patients, but it depends on a great variety of causes. Setting aside the pain in the head in periostosis, which is easy to recognize by the great sensitiveness of the bones to pressure, there are many different forms of cephalalgia.

There is (1) the secondary headache contemporaneous with the roseola, deep within the head, heavy or lancinating, which may assume any degree from simple heaviness to complete prostration, may keep the patient in bed, and may be accompanied by hazy sight, vertigo, giddy feeling, or intellectual obnubilation. This headache is looked on by the majority of writers as purely functional and yields to treatment. (2) There is the hysterical headache, that can be diagnosed by means of the anesthetic zones of the head, the varying nature of its symptoms, the exaggerated descriptions supplied by the patients, and the other hysterical stigmata. (3) The neurasthenic headache—for we know with what facility syphilis awakens neurasthenia as well as hysteria,—distressing rather than painful, and expressed more by florid sensations of vacuum, of pressure, than by actual suffering. (4) The headache that gives warning of or accompanies cerebral syphilis,—arteritis, gumma, or meningitis,—always in one spot, violent, with its maximum at night and accompanied by organic symptoms. (5) Neuralgic headache, in which the pains extend along the branches of the fifth pair, particularly the ophthalmic branch.

Headache that is contemporaneous with the roseola is usually not accompanied by leucocytosis. When there is any, this is a pure coincidence which denotes the intensity and seriousness of the infection. This headache, therefore, does not depend on syphilitic meningitis; it is either purely functional or can be attributed to an organic alteration of the brain itself, similar to that of tetanus, which is not accompanied by any cerebrospinal lymphocytosis.

The secundo-tertiary or tertiary headaches are accompanied by leucocytosis, which clearly shows their organic nature. In most cases it is a lymphocytosis. Still, there are cases of headache of a meningitic type, in which the polynuclear leucocytosis almost equals the lymphocytosis.

The hysterical or neurasthenic headache is not accompanied by leucocytosis. Consequently the presence of lymphocytosis enables one to affirm the organic nature of a case of headache which at first sight might appear, as so often happens, to be of a hysterical or neurasthenic nature.

The headache due to neuralgia of the fifth pair of cranial nerves is not accompanied by lymphocytosis unless there is gummatous compression of the nerve in its intracranial portion, or unless there is tabetic neuritis. (G. MILIAN, M. D., St. Louis Hospital, Paris, in *International Clinics*, Vol. III, 14th Series.)

The Placenta in Fetal Syphilis.—The term syphilis should be rigidly limited to the

changes produced in the organs and tissues of the unborn infant and its membranes during the fetal period of antenatal life, a period which lasts from the sixth to the fortieth week. Syphilitic manifestations appearing after birth are best classified under the term *infantile syphilis*, as they are due in the great majority of cases to infection occurring during birth, and are, therefore, of the nature of "acquired" syphilis. Fetal infection with syphilis is generally transplacental, and the morbid changes occurring in the disease are modified by the intrauterine environment. The placenta in some instances keeps back the syphilitic poison, saving the fetus from syphilis; in other cases the fetal tissues become infected from the placental lesions; oftener the seriously diseased placenta entails disease not so much as fetal death; and finally, the fetus may become infected through the placenta and then die on account of lesions in the placenta.

Alterations in the structure of the syphilitic placenta are very frequent, although not constant. To the naked eye it is larger than normally; its color is a pale red with yellowish-white patches; it is softer than usually and may even be friable. Under the microscope a well-marked endarteritis and peri-arteritis are found; the villi are considerably hypertrophied and the tissues show fibrous degeneration. Hemorrhages are found in the maternal part of the placenta, thus tending still further to diminish the circulation passing through the organ, and rendering fetal death almost inevitable. Gummas of the placenta are probably hemorrhagic in their origin, or are due to fibrous patches which have become more or less caseous; true gummas may exceptionally be met with. The common changes in the umbilical cord are a thickening of the vessel walls, so great as almost to produce obliteration, and the formation of thrombi in these narrowed vessels. Absence of the jelly of Wharton, causing dissociation of the vessels, has been observed.

Hydramnios—an increase in the quantity of liquor amnii—is not pathognomonic of syphilis, but it is so common in fetal syphilis that it is of some diagnostic importance.

The poison of syphilis usually expends its full virulence upon the placental tissue, sets up morbid changes in it, and so kills the fetus. Abortion or premature labor may follow, or the fetus may not die in utero, but after expulsion, as a result of its prematurity. The poison may attack the fetal organs after passing the placenta, set up the changes above referred to, and the fetus be born alive with the signs of syphilitic infection all over it; or it may exhibit dystrophies in those organs which are in a formative state during the fetal period. The fetus may be born alive and only show external signs of syphilis some weeks after birth, or it may be born free from syphilis even giving evidence of immunity against it. (J. W. BALLANTYNE, M. D., in *International Clinics*, Vol. III, 14th Series.)

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